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ABSTRACT

Designed for use in conducting media production training with Peace Corps fieldworkers, this manual is divided into three sections: skill exercises, line drawings, and directions for making art supplies from easily obtainable, low cost resources. Nineteen step-by-step skill exercises cover basic cutting, wet and dry mounting, simple drawing, freehand lettering, cutting and enlarging, tracing, and making blackboard stencils. Each exercise is divided into five sections: (1) beginner's skill requirements; (2) materials; (3) production process; (4) helpful suggestions; and (5) criteria for evaluating completed projects. Guidelines are also given for using the blackboard, flannelgraphs, and flip charts with village audiences. Suggestions for effective utilization of color and design describe creative ways to enhance visuals. Simple line drawings of subjects frequently used in making visuals for villagers are provided for fieldworkers to trace, copy, and enlarge. These drawings provide the illustrations needed in the prototype lessons, and optional head drawings allow fieldworkers to make their illustrations more racially exact. The concluding section contains recipes for making such low cost media materials as paste, ink, dyes, paints, rubber cement, and modeling clay. (JB)

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WORKING WITH VILLAGERS

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Media Resource Book

Skill Exercises
Line Drawings
Recipes for Making Teaching Tools and Materials

Activities, Media Skills, and Sample Lessons for Training Fieldworkers in Home Economics and Family Planning

IR011722

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MEDIA RESOURCE BOOK

There are three sections to this Media Resource Book. All are essential resources for conducting Media Lab training.

Skill Exercises Section. Nineteen step-by-step, illustrated exercises which will give fieldworkers basic skills needed to construct their own visuals. Media Lab trainers can learn the skills from this Skill Exercises Section and demonstrate them to fieldworkers. Also contains information on using the blackboard, flannelgraph, and flipchart as well as some ideas on color and design.

Line Drawings Section. Simple line drawings fieldworkers can trace, copy, and enlarge. They are of subjects frequently used in making visuals for villagers, and they provide illustrations needed in the Prototype Lessons. Optional head drawings allow for making illustrations more racially exact.

Recipes for Making Teaching Tools and Materials Section. Formulas and directions for making art supplies and equipment from easily obtainable, low-cost resources.

For a full description of how to use these three components in training, consult the Media Lab section of the Trainers Manual.

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Skill Exercises Section

Skill Exercises Section

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SKILL EXERCISE #1

BASIC CUTTING: STRAIGHT SLICING

This activity will give you the basic cutting skill used in preparing visual materials. You will be using a ruler and a razor to obtain a clean, sharp line that will look professional.

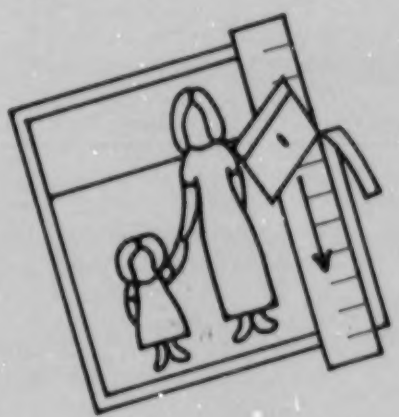
Skill Requirement: None

Materials: Picture with borders; ruler; razor or other cutting instrument but preferably not scissors; cutting cardboard.

Note: A cutting cardboard is simply a heavy piece of scrap cardboard on which you can cut pictures. You can also use a magazine or newspaper, but these materials will shred quickly. Do not use corrugated cardboard as the cutting blade will stick in the corrugated filler.

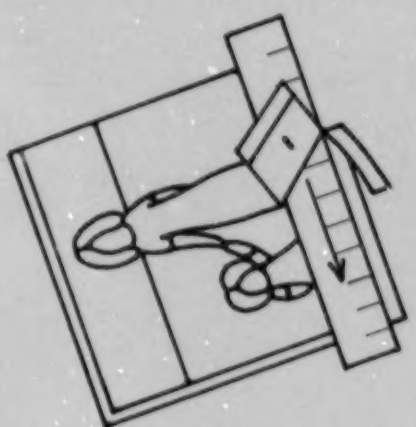
Process:

1. Place the picture on the cutting cardboard, with the top left edge or the side to be cut slanting left. Now place your ruler along the right-hand border to be cut. Note: Reverse all directions if you are left-handed. For example, in the first step, your paper should slant to the right if you are left-handed.



2. Pressing firmly on the paper and ruler with your left hand, hold your razor at a 30 degree angle and beginning at the top, move your arm downward with a firm, even stroke.

3. Change the position of your paper so that the next side to be cut is again on your right-hand side. Repeat the same process using firm, even strokes until all the borders have been trimmed.



You Have Mastered This Skill If:

1. Sides of picture are cleanly cut with no ragged or rough edges.

2. Distance between parallel sides is the same at all points.

SKILL EXERCISE #2

BASIC CUTTING: STRAIGHTENING ROUGH EDGES

Many times you will find a picture which has one or more straight edges but at least one torn or frayed edge. This activity will give you the ability to produce a picture which has all straight edges.

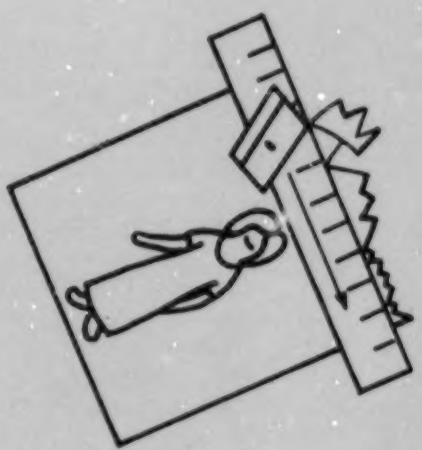
Skill Requirement: #1

Materials: Picture with one or more torn edges; pencil; ruler; razor; cutting cardboard.

Process:

1. Place the bottom edge of your ruler along the bottom of the straight edge of the picture. Measure the distance between the straight edge and a point on the opposite side which, if a line were drawn through this point, no torn edges would appear. Mark this point with a dot.

2. Measure off that same distance at several other points along the torn edge and place dots. Make sure you have placed dots at both ends of the picture. With your ruler, make a straight line connecting these dots.



3. Using the same cutting procedures you learned in the Skill Exercise #1, place your ruler along these dots and cut a straight line. Remember to use a firm, downwards stroke in cutting.

4. Repeat the same process on any other torn edges.

You Have Mastered This Skill If:

1. Sides of picture are cleanly cut with no ragged or rough edges.

2. Distance between parallel sides is the same at all points.

SKILL EXERCISE # 3

BASIC CUTTING: IRREGULAR IMAGES

Frequently you will find an image within a picture which you would like to use in making your visual materials. For example, for a lesson on nutrition you may want to cut out a picture of a particular vegetable from a larger picture of food. This skill will enable you to put various images together to create a new illustration.

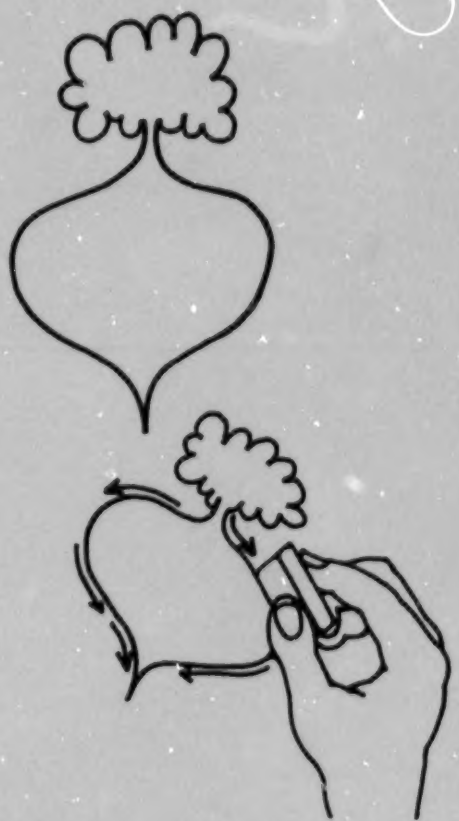
Skill Requirement: None

Materials: A picture with an image which you want to cut out; razor; cutting cardboard.

Process:

1. Look at the image you want to cut out to determine whether there are any fairly straight, long lines. You will begin with these. Position your paper so that you can use a downward stroke in cutting. Since you are not using a ruler, care should be taken to follow the lines of the image. To avoid cutting into the image by an accidental slip of the razor, exert an outwards pressure on the razor.

2. In order to cut even lines, it is necessary to move the picture into a position in which you can use a downward stroke of the razor. An example can be seen of the pattern to be used in cutting out an ear of corn. Notice that the direction is always out from the image. Remember that to cut out this ear of corn, it must be constantly moved so that each cutting stroke starts at a point and moves downward.



Suggestions:

When selecting an image to cut out, keep in mind the way in which you plan to use it. If your object is too small, it may become lost in the background. At the same time, an image which may be too small to use on a bulletin board may be just right to use on a flashcard.

Avoid images with blurred or fuzzy edges.

When learning this skill, select images which are not too detailed.

This activity requires skill, so don't be discouraged if you don't succeed at first--keep trying!

If a razor proves to be difficult for cutting curved lines, try scissors.

<u>You Have Mastered This Skill If</u>:

1. All lines of the image are clean-cut with no ragged or rough edges.

2. No traces of background picture are visible.

SKILL EXERCISE # 4

BASIC MOUNTING TECHNIQUE USING RUBBER CEMENT

Mounting photographs or pictures cut from magazines ontc cloth, cardboard or heavy paper is one way of protecting them from damage due to frequent handling. Mounting can also make a picture more attractive and easier to use. In this activity, rubber cement is used to make a permanent mount of a picture on cardboard or heavy paper. Take your time in doing this exercise because a clean and neat appearance gives the picture a professional quality.

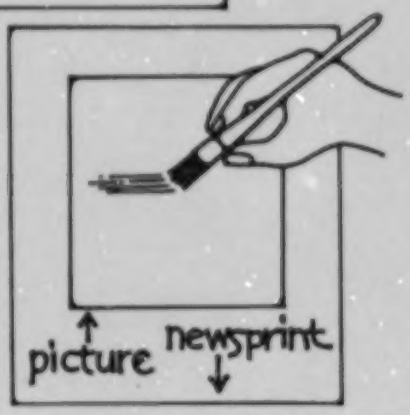
Skill Requirement: #1 and #2

Materials: Picture; cardboard or stiff backing paper; pencil; rubber cement; thick brush or cardboard; waxed paper (such as waxed bread wrapper); newsprint (or a large sheet of clean paper).

Process:

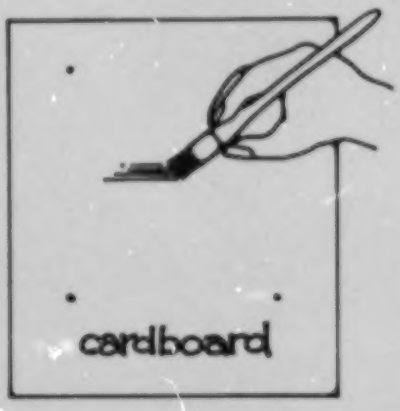
1. Position the picture on the cardboard. It will be more attractive if you leave slightly more space at the bottom than at the top. With your pencil, make light marks at each corner.

2. Remove the picture and place it on the newsprint with the reverse side of the picture facing you. With a thick brush or piece of cardboard, cover the entire back of the picture with rubber cement, using fast, even brush strokes. Do not go over it.



3. Next, repeat the application of the rubber cement within the marked area on the cardboard on which the picture is to be mounted.

4. Allow the rubber cement to dry completely on both surfaces.



5. Place two sheets of wax paper between the picture and the cardboard in order to line up the picture. Match the corners of the picture with the marks on the cardboard. Slide the waxed paper out slowly, gently pressing the picture down starting from the inside and working out.

6. Cover the mounted picture with a clean sheet of paper and, with your hand, rub out any wrinkles. Remember to start from the center and rub outwards to the edges. If your hands are sticky, rub with a rag.

7. Remove any rubber cement remaining along the edges by rubbing it into a ball with a clean finger.

Suggestions:

Pictures can tear easily, so be sure to rub gently, always starting from the center and moving outwards.

After mounting the picture, take time to clean it up. You will find that the rubber cement will clean the cardboard as it is removed.

If you do not have any wax paper, you can mount the picture directly on the cardboard, but this must be done carefully as the two surfaces coated with rubber cement will stick immediately upon contact.

On some occasions you may want only a temporary mount for your picture. In this event you can use a cassava or wheat paste (see Recipe Section), white glue, or rubber cement which has been applied only to the backside of the picture. A picture mounted with paste is not very durable and can be a problem in hot and humid areas.

You Have Mastered This Skill If:

1. The picture adheres smoothly to the mounting cardboard without any bumps or wrinkles on the surface, and with no upturned edges or corners.

2. There are no traces of rubber cement (or whatever adhesive is used) on the mounted picture and cardboard.

3. The mounted picture is free of any dirt or ink smudges.

4. The picture is evenly placed on the mounting material with the same distance from the picture to the edges on both sides.

SKILL EXERCISE #5

OPTIONAL MOUNTING TECHNIQUE USING DRY MOUNT TISSUE

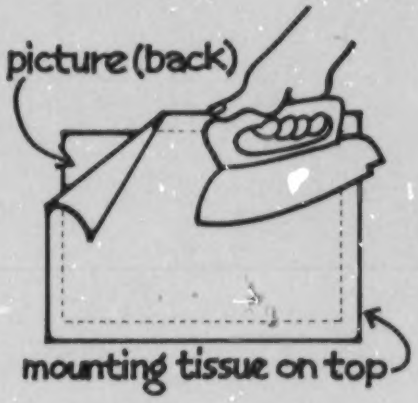
Mounting pictures also can be done using the "dry mount process." This process is optional and will require the purchase of dry mounting tissue (see Recipe Section on adhesive papers) which can be found at most photographic stores. It will also require a source of high heat such as an electric iron. If these materials are available, mounting pictures in this fashion provides a quick, clean and permanent mount.

Skill Requirement: #1 and #2

Materials: Picture or illustration; mounting board or heavy paper; dry mounting tissue; electric iron or other source of heat; ruler; razor.

Process:

1. Place the mounting tissue on the backside of the picture and with the tip of a heated iron, rub a small area in the center of the mounting tissue. This will fasten the mounting tissue to the picture.

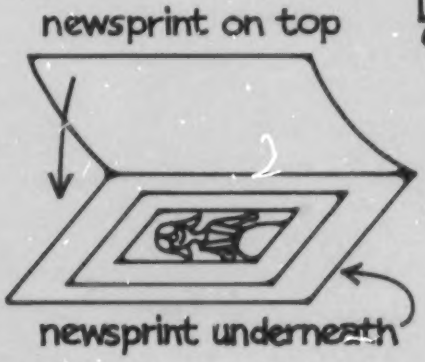


2. Using the cutting skills learned in earlier exercises, trim the picture with the attached tissue to the desired size.

3. Place picture face up in position on the mounting material.

4. Lift upper right-hand corner of the picture, and tack the tissue to the mounting material, again using the tip of the iron in a slight back and forth motion. Repeat this process at lower left-hand corner.

5. Cover the picture and the mounting material with a clean sheet of paper. Press over the covered surface with an electric iron for about 10 seconds. (Remember, if you use an iron, start at the center and move outwards to the edges.)



Suggestions:

Store dry mounting tissue in a cool dry place to keep it usable.

Finding the right temperature to heat iron can be a problem at first. Experiment to get the right temperature. As a rule:

- if tissue does not stick to mounting material, the iron is not hot enough.
- if tissue does not adhere to picture, the iron may be too hot.

If an electric iron is not available, a flat iron heated on a stove or with charcoal will serve.

You Have Mastered This Skill If:

1. The picture adheres smoothly to the mounting paper or cardboard.

2. No traces of the dry mount tissue are visible.

3. The picture is evenly placed on the mounting material.

SKILL EXERCISE #6

WET MOUNTING TECHNIQUE FOR LARGE PICTURES, POSTERS, OR MAPS

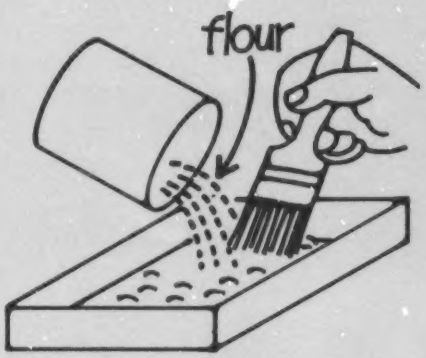
Mounting pictures on cloth as a means of preserving and protecting them is an age-old process used centuries ago in Far Eastern countries to protect paintings and scrolls. It is ideal for preserving large visual materials, so before beginning this exercise you may want to consider which chart or poster will be most useful to you in your activities.

Skill Requirement: None

Materials: Wheat, rice or cassava flour (or a similar substitute) to make a paste; wide paint brush; shallow pan; sponge; unbleached muslin (baft or old flour sacks) for cloth backing; thumbtacks; wooden rolling pin (or smooth bottle); bowl or bucket (for soaking backing material); flat surface such as table or piece of plywood to do the mounting on.

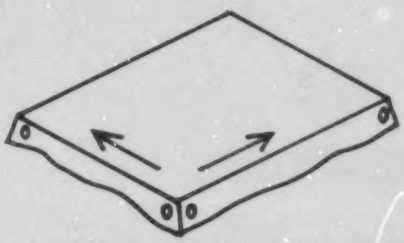
Note: Mounted picture will take at least 3 days to dry completely before it can be removed from flat surface.

Process:



1. Place backing material in bucket of water to soak. (New cloth resists water so be sure it is completely wet.)

2. While the backing material is soaking, prepare the paste: pour ½ cup of water into shallow pan, sift in flour, stirring it with brush. Mix carefully to prevent lumps from forming. Add flour until paste is thick enough to spread easily.

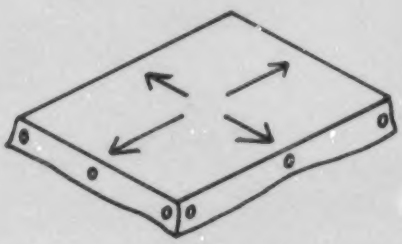


3. Remove the backing material from bucket and squeeze out excess water. Now lay the cloth on the flat mounting surface, smooth out any wrinkles and proceed in the following fashion:

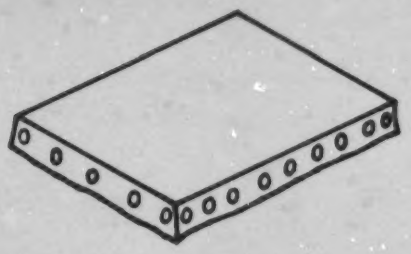
   a. Fasten one corner to mounting surface with thumbtacks, allowing a little excess cloth (5 cm) to extend over the edge of the board.

   b. Stretch the cloth to the second corner keeping the threads straight and fasten with thumbtacks.

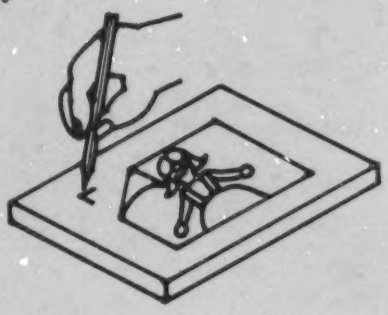
   c. Proceed in a similar fashion and tack the third corner, then the fourth corner. Now go back and place



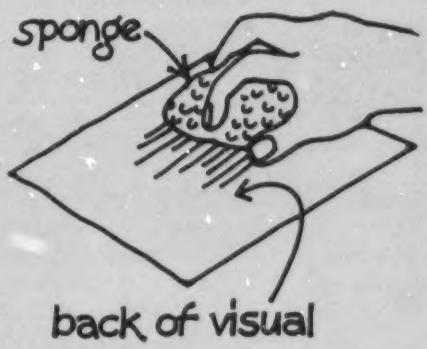
thumbtacks at intervals along sides, beginning at center and working toward edges, stretching material tightly over mounting surface and allowing for excess cloth overhang. Make any adjustments necessary by removing tack from fourth corner and stretching cloth down. It is important that the thread pattern run parallel to edges of board.



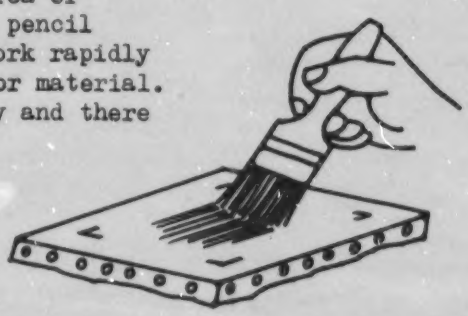
4. Place the visual to be mounted on smoothly stretched cloth and mark corners for placement with pencil.



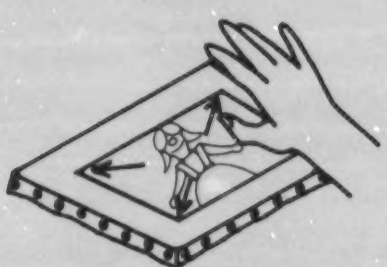
5. Next, place visual face down on smooth surface and moisten the back with water, using a sponge or piece of cloth. The visual should be completely saturated so that it lies flat. (Expect paper to expand slightly.)



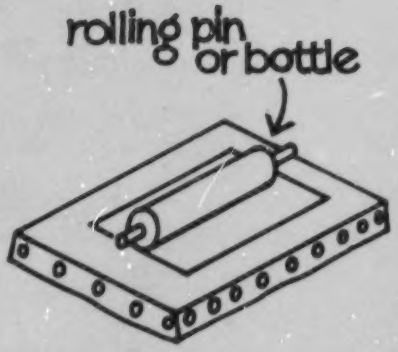
6. Apply paste with brush over area of backing material indicated by pencil marks and slightly beyond. Work rapidly to avoid drying out of paste or material. Be sure paste is spread evenly and there are no lumps.



7. Sponge off all excess moisture from back of paper material and place it "face up" on the pasted material, positioning it carefully in accordance with the marks. Work from the center out to the sides in smoothing it onto material. Use a gentle touch!

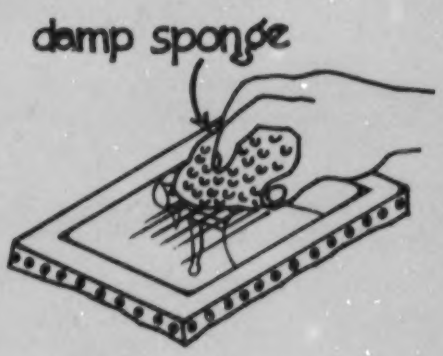


8. With rolling pin or round bottle, smooth out excess paste to make a permanent mount. Exert only light pressure. Place rolling pin in center and position it parallel to two longest sides of visual. Roll from center to two nearest edges then roll from center to two remaining edges (forms a T shape). Again place rolling pin in center and roll to each corner (forms an X shape). Roll gently at corners. It may be necessary to lift corners occasionally to relieve tension built up during rolling. Clean paper strips placed over the edges of the visual will prevent paste from getting on roller. When rolling is completed, remove paper strips.



9. Move your clean hand lightly over surface of visual to see that there are no folds or wrinkles. Reroll any sections necessary.

10. With damp sponge (be sure it is clean), wipe any excess paste off surface of the visual.



11. Allow to dry on mounted surface. (Drying may take a few days, depending on the humidity in your locality.)

12. When dry, remove from mounting frame and finish edges by a) cutting the cloth flush with visual (pinking shears best to prevent raveling); b) taping edges.

You Have Mastered This Skill If:

1. Picture adheres smoothly to cloth without bumps or wrinkles.
2. Picture is accurately positioned on cloth, with same distance between edges on both sides.
3. There are no traces of paste around borders of picture.
4. Edges of cloth are finished so as not to ravel.

SKILL EXERCISE #7

SIMPLE DRAWING: THE SIZE AND SHAPE OF THINGS

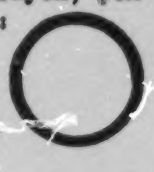
Simple drawing or stick figures to represent people are another means of illustrating ideas. There are 3 major factors to consider in drawing stick figures:

- proportions
- distinguishing features such as face and dress
- body movement

This activity will emphasize body proportions and distinguishing dress/ ornamentation. Since drawing simple figures requires more skill than drawing objects, you will want to practice frequently.

Skill Requirement: None

Materials: Pencil (crayon, pen or felt-tip pen); paper; coin approximately this size:



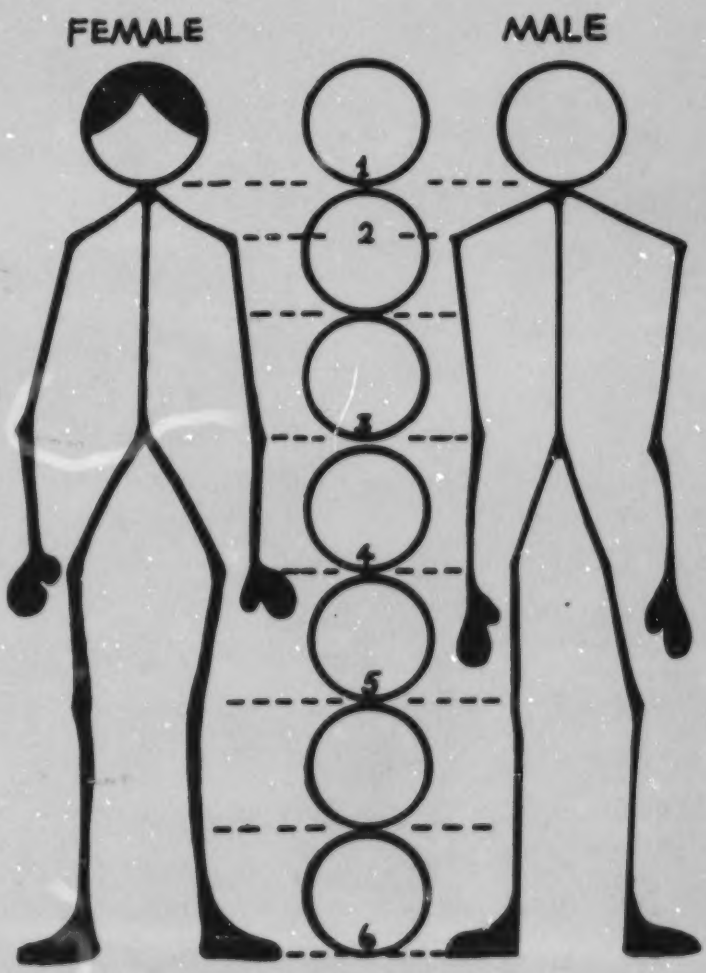
Proportion Process:

1. Draw seven circles, outlines of a coin, one underneath the other. Lightly pencil a broken line at points 1 - 6 on the coin outlines.

2. To the side, use the same coin to make a circle for the head. Draw the rest of the figure in line with the proportions given. Notice that:

   - the shoulders come at point 2,
   - the bend in the elbow at point 3,
   - the hands and hips at point 4,
   - the knees at point 5,
   - and the feet at point 6.

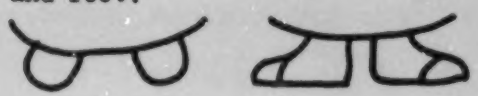
3. Repeat this same process to make a female stick figure. Women have narrower shoulders and wider hips so you will want to make some adjustments.



4. Now try drawing a female figure next to the one you have just drawn, only this time do not use any coins. Try to judge with your eye the correct body proportions.

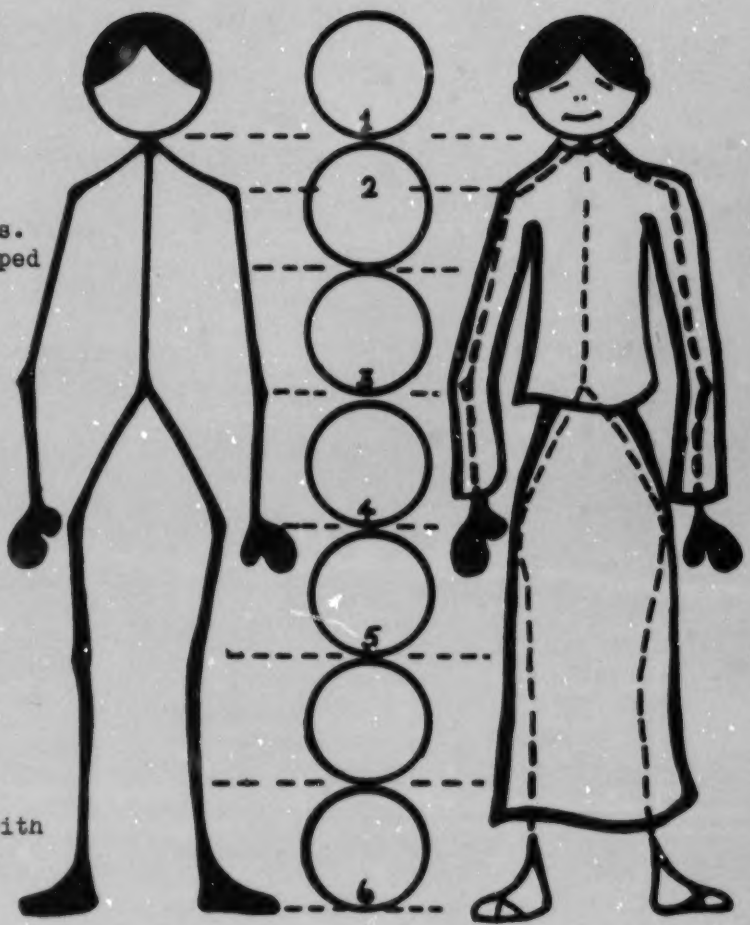
5. Once you feel you can draw these figures in the correct proportion, work to pick up speed. You may want to eliminate the middle line extending from the head to the hips. You also probably will have developed your own style for hands

and feet:



6. Now go back and add the finishing touches to make your figures more realistic such as:

   - hair, ears, headcovering,
   - pants and shirt (for males),
   - dress or skirt and blouse for women,
   - erase center lines and fill in with colors appropriate to your area.



Suggestions:

Make your figures big and bold so that they can be easily seen.

You Have Mastered This Skill If:

1. When drawing simple figures without the aid of a coin, all body parts are accurately proportioned.
2. Distinguishing features of dress and hair are added and completed drawings are recognizable as male and female.
3. Drawing is large enough to be easily seen at a distance of 3 meters.
4. Simple drawing of a figure is completed in less than 5 minutes.

SKILL EXERCISE #8

SIMPLE DRAWING: FACING UP

In this activity you will be working with different types of facial expressions to add some realism to simple line figure drawings. Several examples are included to give you an idea of the range of possibilities--the rest is up to your imagination!

Skill Requirement: None

Materials: Pencil; paper; colored felt-tip markers.

Process:

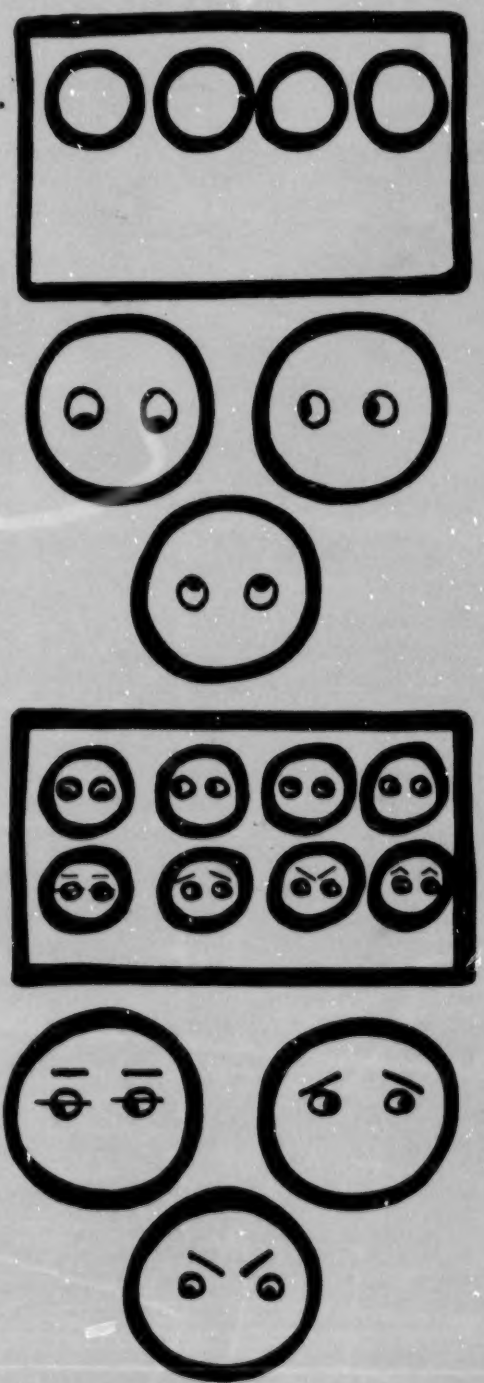
1. At the top of your paper, quickly draw a series of ovals or circles. Do not worry about being precise; work for speed; make your ovals big and bold.

2. Expressions of the face change with the shape of the eyes and the position of the pupils. Draw eyes in the circles and make pupils in different positions in eyes.

3. Draw another series of ovals or circles in the next line. Expressions can also be changed by the position of the eyebrows and eyelids. Draw eyelids, eyebrows, and pupils in the faces in this next line. Experiment with trying to show different emotions.

4. Draw a third line of ovals or circles. The mouth is another facial feature which gives us an idea of a person's feelings. Draw different mouths in the faces. When you have completed this, go back and add the other features.

5. You have now mastered the basic steps in drawing simplified faces. You will now want to begin adding your own touches. Select a few of the faces you have just completed and go back and add a few other characteristics--hair, perhaps a hat, or some other

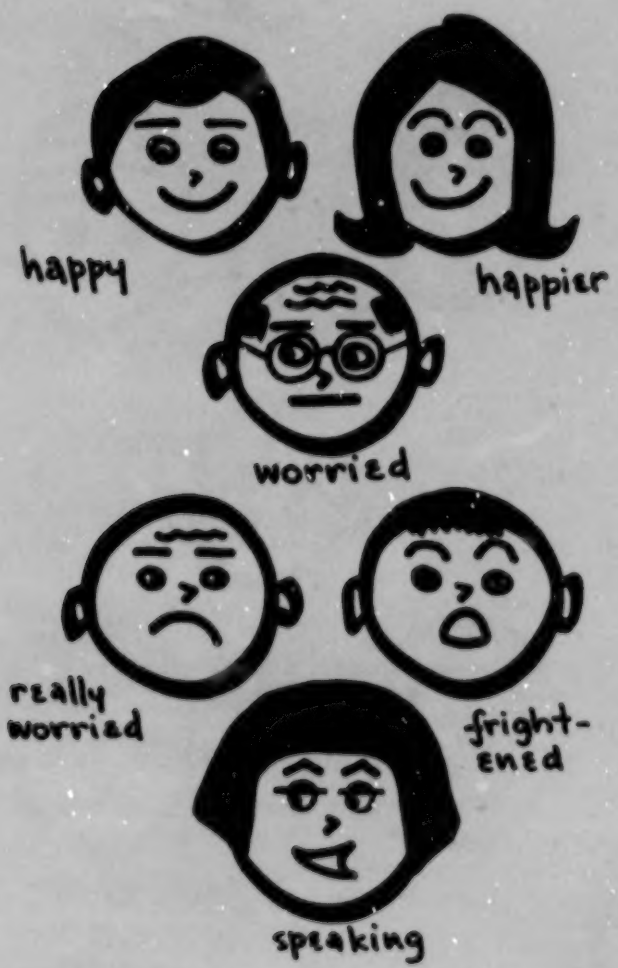


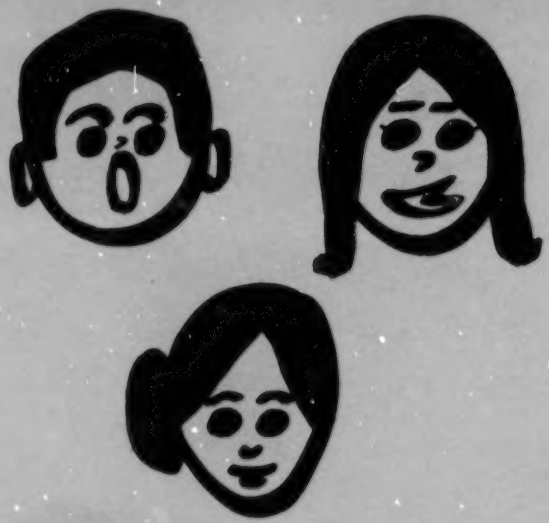
feature which is common or would be easily identified by the people you work with. Add color now, for hair, eyes, mouth, headcoverings, other.

You Have Mastered This Skill If:

1. Expressions on faces are identifiable.

2. Expressions for at least three different emotions can be drawn.





happy woman

happy girl

SKILL EXERCISE #9

SIMPLE DRAWING: PUTTING THINGS TOGETHER AND MOVING ON

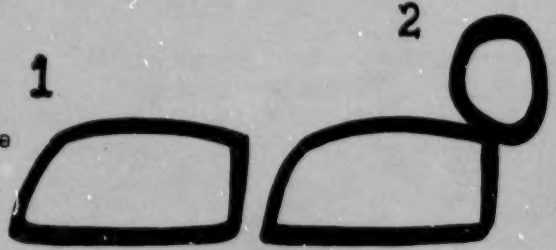
People seldom stand still and you won't want your drawings of people standing still either! In this exercise you will be putting your people into action. (See the Line Drawings Section for other illustrations.)

Skill Requirement: #7 and #8

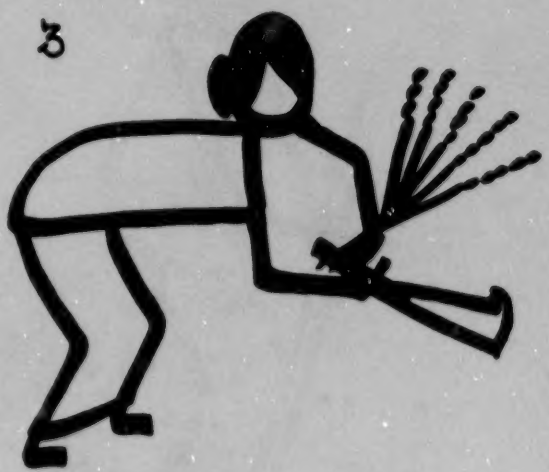
Materials: Pencil; paper; colored felt-tip markers.

Process:

Cutting wheat/Drawing water



1. Begin first with a curved rectangle for the back.
2. Add an oval for the head.
3. Next draw the legs, bending the line for the knees. Add the arms.
4. Now add finishing touches (feet, hands, wheat, knife).



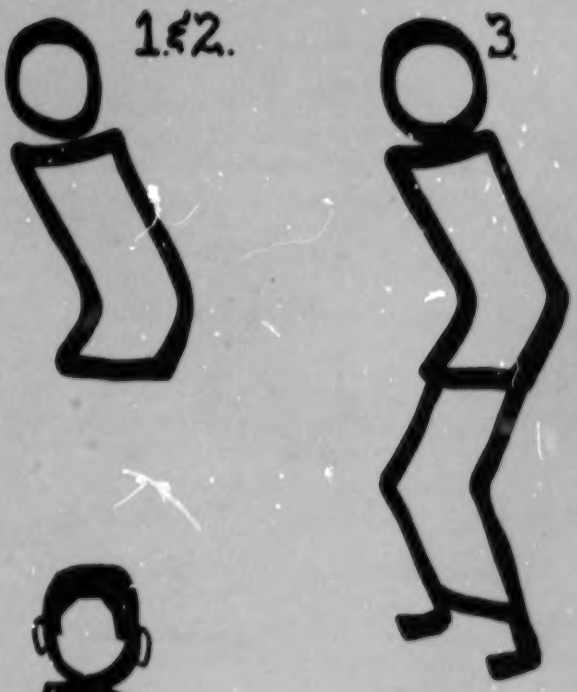
Pounding food/Caring for child

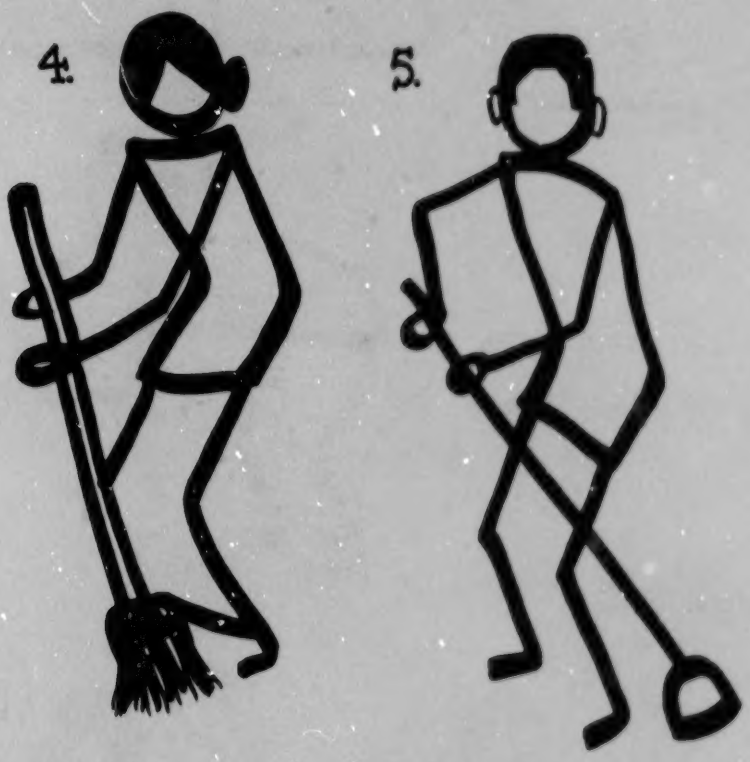
1. Draw curved rectangle for body, and add oval for head.
2. Add legs.
3. Add arms.
4. Fill in with objects.

Sweeping the floor/Hoeing the garden

Draw:

1. Curved rectangle
2. Head
3. Legs
4. Arms
5. Add finishing touches.
6. Repeat this same drawing up to step 3. Change the position of the left arm and slant of shoulder line. (See figure 5.) Add a hoe.





Notice the difference the slant of the shoulder makes. When the movement is away from the body, the right shoulder tilts upward. When it is toward the body, the left shoulder tilts upward. Now, using colored markers or crayons, go back and add finishing touches of hair, clothing, headcovering, other.

You Have Mastered This Skill If:

1. You are able to draw figures doing at least three different activities.

2. Completed figures have finishing touches in color of dress, hair, and ornamentation.

ODDS & ENDS OF SIMPLE FIGURE IDEAS

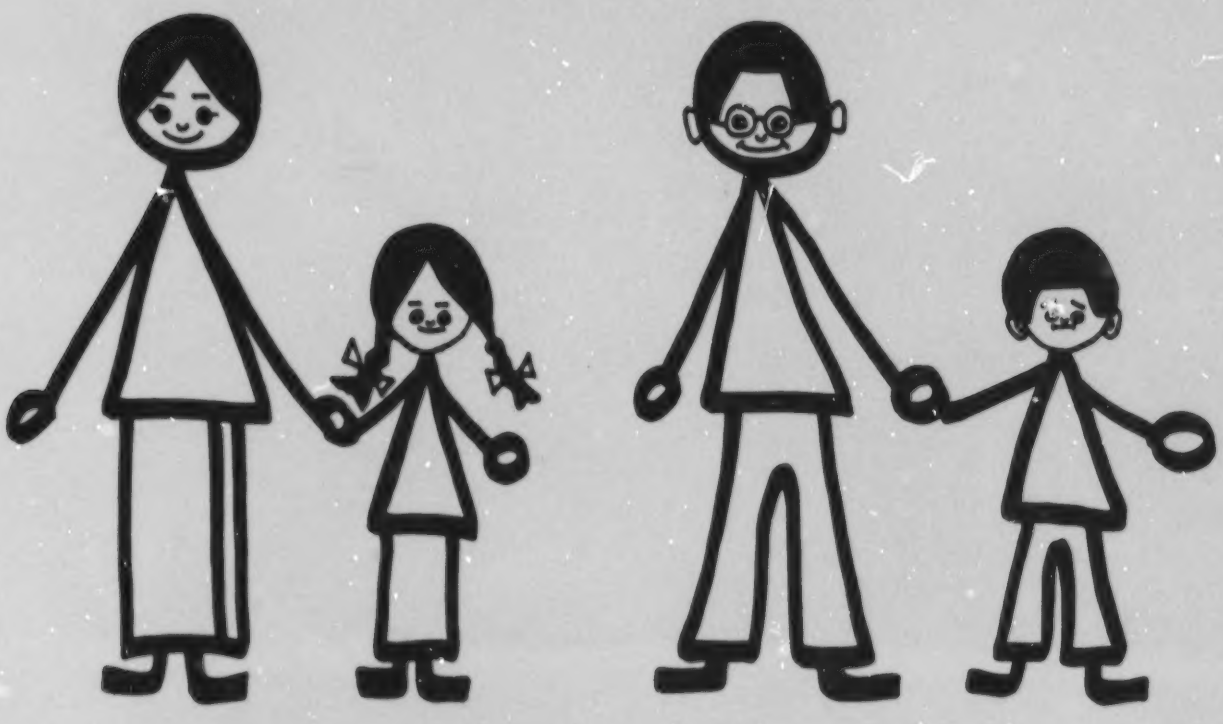
Full view

Side view
(add nose)

3/4 view

CHILDREN'S FACES
(Place eyes lower on face.)

DRAWING VERY SIMPLE FIGURES BY: OMITTING HIPS & SHOULDERS



SKILL EXERCISE #10

FREEHAND LETTERING: NOTES ON NEWSPAPER

HAND-DRAWN LETTERS: Although there are several commercial sources now available for ready-made letters, you will find that hand-drawn letters can look quite professional. They can be easily read, are cheaper, and, with practice, are easier to use. The key is simplicity and for this reason, lettering on all visuals should be printed. In this exercise, emphasis is on making neat, straight letters.

Note: If you do not use the Roman alphabet, try to adapt this exercise following the same ideas.

Skill Requirement: None

Materials: Broad-tipped pen (crayon or felt-tip pen); ink; newspaper.

Process:

1. Be sure that the newspaper sheet you have selected is relatively free of large lettering and any photographs. (The classified ad sheet frequently is ideal.) Place the newspaper sideways so that the columns are horizontal.

2. The lower-case letters (a, b, c) of the alphabet will be the width of one half of a column, and the upper-case letters (A, B, C) will be the width of one column.

3. Now, with your first sheet of newspaper, begin lettering the upper case letters. Decide how wide you want the lines of your letter to be. Letters which have straight up and down lines (M, L, T, for example) will be easy to make by simply following the lines provided by the newspaper type.

4. You will also have to decide the width of the total letter. If your letters are approximately 4 cm in height, the width of your letters should not exceed these measurements. Before beginning the letter, you may want to quickly mark the number of lines of type which the letter will include.

5. Once you have made all the upper case letters, take another sheet of newspaper and make all the lower case letters.

Suggestions:

There is no need to use a ruler in this exercise. If you find that your letters are wobbly and uneven, use quick, downward strokes, when possible.

If the point of your marker is too narrow to cover the width of the line of your letter, you may make the outline first and then fill it in.

25

COUNTRY Living. 2 rms plus ½ house. $110 mo. Util inc. 824-6078 or 332-8076

... Lg. 1 bdrm. apt., Colle... Lec., 334-2880. After 5pm, ... 3.

...niture? Sell the old-fast, ... easy-to-place Classified ad ... 2183

3 BDRM Townhouse. Colonial Crest Apts. Call after 4pm. 332-4808.

2 BDRM. ... Carpeted, AC, 2015 ..., $145. 332-6214.

WANTED ... males to share furn. apt. 1... from campus. Lge. bedro... 2018.

HIGHLAND VILLAGE

Town house duplex, 3 bedrms. ... laundry rm, cent. ... fenced back ... Pets ... pted. Family living. ... 332-8899 or 336-...

2 BEDROOM DUPLEX
Phone 336-3338
or 824-0269

1 BDRM. ... w/gar. $115 ... & elec. Refrig., stove & wa... h. No pets. Married couple ... 336-4183.

3 RM. ... w/w, stove, refrig., AC furn. Very clean. 3 blocks W. of College. No pets. Call Frank Sisney, 332-4393

... ...ber is 332-2183 ... to selling your ... ems. Call this ... at the H... Telephone.

2 BDR... Apt., Air cond., ... private ... ot allowed. $128 if you ... y. Avail. 1/1, 332-3210.

2 BDRM. TOWNHO...E, ... baths, lg. ... house & play-ground avail. ...xc. Area. 332-2677.

1 BDRM. ...,AC, 2 blocks from ... 336-2299

...D: Roommate to share 2 bdrm. ... apt. $75/util. pd. 334-1234, 5-7.

1 BDRM. Furn. apt., walk to town & campus, util. furn., $168.50 per ... 334-6788.

2 ...MALES TO S...RE ... Dunkirk Sq. mo. inc. ... 334-2322

1 BE...OM, cable TV, extra ... space. $147.50 plus elect. Phone ... 8961

VERY Hi... Bdrm. near IU, avail. now, 332-... 339-3119.

2 BDRM. — Good cond., all utils. pd. single person only. $145 mo. ... 4 mi. W. on SR 46. 8... ...ore 6pm.

27

4 BDRM w/bsmt & garage. $375, & $200 dep. 332-5399

3 BEDRM. unfurn. house, no pets. Years lease. $130 mo. West. Call after 5pm 336-0631

27

3 ROOM Modern cabin, 13 mi. North. Dep. required, utils. paid. 33...

...DRM. A... IN, Carpeted, 7 S. on 37, ... $125 mo., plus Dep. Re... 3740.

...USE, carpeted, furn., avail. imm...ed. Call 334-1885 or 332-5470

28

... 2 bdrm ...c. & water furn. ...ren O... pets. $32.50 wk. 33...

1 BDRM Trailer in country, no pets. Call 332-...

...MO...OME on private ...n counti... 10 per mo. inc. util. exc... ...ater. No pets, ... dep. re... 5768

...2 bedrm. ...elec. lge. lawn, loc. Richland Twp. Call Robert Fyffe 834-4546 after 5PM week

...EDROO... ...ailer, $115 per ... plus uti... Ph. 332-4914.

...RM. F... ...obile home, 5 ... Pets allowed. $99 up. 336-3476.

2 BEDRM. FURN., 12x50, gas ... 824-9336

...D... ...mobile home. ...W. ...tgtn. on Lg. lot. ... required. Call ... 5. 332-1271.

RECREACRES
2 bdrm. mobile home, 336-8804, 9-5

... ...furn., carpet... AC, Stor. sh... ood loc., exc. ...ape. 339-1096.

HEAT etc. furn. No pets. Small ... Good loc. 332-9161 4:30

29

NEED GARAGE. Anywhere in Monroe Co. 339-1...3, 339-9281.

... ...home within 10 m... ...in. Single male with ref. U... $250 mo. $50 reward 339-7... ...ge for rent. 825-4785.

FIREMAN With 3 children seeks home w/3-4 bdrms. ... Perry ... Refs.

WANTED — 2 br. house, within 15 mi. of Bigtn. w/some pasture or barn. Need immed. 334-0171.

...YED family desires 2 br. house in country by Dec. 1. Exc. references. 876-2834.

WANTED: house in the country ... Bob, 334-... REWARD.

2 ...D... ...OUSE in town. ...19

SINGLE MALE, Responsible, 29, seeks house/apt for $100 or less. 334-1649.

RESPONSIBLE ... ...ed resi-dence in Bigtn. vic. to rent or perhaps buy. Exc. references provided. Offering $100 reward. Call 988-6162 or 988-6141 anytime.

31

WILL BUILD 2 car garage w/approx. ... sq. ft. Storage ... See at 701 S...

33

BABYSITTI...G in my home, $4 day or $0 ... hr. Hot meals, in-cluded. WE... side. 334-3914.

... Meadow Pa... Apts, 334-3461.

WILL BABYSIT my home, near College Mall. Call 339-6751 for ...

... 339-5293.

BABYSITTING in my home, Af... ...ns & evenings. Call 339-...

...LL BABYSIT IN MY HOME ...ily. Close to RCA & Hospita... ...4265.

... chil... after school, & ½ days. (ages 3-... Call 339-3800 for an appt.

SMALL WELL ESTABLISHE... child care center. Indiana sta... licensed and well equipped. Small acreage w-lge. well fenced ... sell both ... and business, but wi... ...er options. For ...info. ... Child Ca... Center ... ...sville, IN 47429

40

PROGRAM ADMINISTRATOR ...

...irector to manage their housing ...ehabilitation project. The posi-...ion will last approx. 12 mos. & is ...unded through a grant received ...nder the Community Develop-...ment Act of 1974. H.S. required ...nd supervisory or ad-...ministrative experience helpful. ...Pick up applications at the ... Office or the ... Office. ... to Ch... County ...nority, P.O. Box 97, ...

CITY OF ... — Human Resourc... ...

... Resources within the community; coordinating and assessing the delivery of com-...munity resources and methods for ... overlapping services ... must be willing to ... in the City limits. ... approx. $14,000/yr. ... resume to the Person... ...C, 220 E. Third St... ...100, Bigtn. IN 47401 ...

41

42

NEED EXTRA INCOME?
Your Monroe County Army Reserve offers one of the best ... ...u can get. Begin-... ...uch as $1,396 for ... plus promotion... benefits. A... just one ... each mon... ...d tw... year. Have ... ...and women ... previous ...ce. And with or ...n job skill. If you ... have ...ll, we'll train you. CALL 332-9... 9AM-8 PM week-days ... see how you can ...lify.

... ...ible ... Sanitary co... ...surate ...er. 339-5517. ... the o... ...uys in fod... ...alified c... 332-2183 ...

44

WANTED: Broiler cook & Pizza makers. Apply House of Ivanhoe, 508 N. Co... Wed's. Thurs., 2:30-...

... SCHOOL STUD... ... time car hop help ne... ...ly in person, A & W Drive ... S. Walnut.

SALES MANAGEMENT TRAINEE, leading Life & Casualty Co., $170-$200 wk. to ...art. 1-812-336-4475. Bintn. Eo...

47

...YSICAL THERAPIST. ... ...avail. within 30 mi. ... ...lary, profit sharing ... ...ts. Reply ... Telephone... ...erald

50

...TRUCTION; Private lessons; 2.50. Beg — ...ven. levels. Call ...rad, 332-5432

PIANO LESSONS — Profes-...ional, patient guidance. Ph.D. ...andidate, 20 ... yrs. exp. Begin-...ner's welcome. 8-10am, 4-6Pm. 876-...

Do you have the desire, time, and financial resources to train for this rewarding career? Job placement assistance included. Call 317-545-...31 or write Trans-port Careers, Garrett, In. 46738. An IPIAC Accredited School (AC 8225).

...

...ROLL AGENCY, INC
Insure In...sure Insurance
...0 S. Madis... Phone 336-1151

52

SNAPPER RIDING MOWER, ... hp, like new. Mows w... ...ll. 825-4635.

GREEN ... Vacuum, ...

WANTED ... uniforms, ... 1473, anyt...

BARGAIN ... Books, R... ...pliances, ...

1240 MILL ... New & Us... Open daily ...

COMPLE... Range, r... sofa bed, r...

MOTOROL... American...

LARGE ... Cabinet, ... Port. reco... — nice e... chest, othe... etc. 332 -... Johnson A...

MAYTAG ... Pump, & ... elec. $250. ...30. 339-31...

LIKE NEW ... cherry di... top. Beau... chair, 1/2 ...

LEES BE... good cond ... 332-3864

GREAT C... Order th... Cookware ... cutlery m... Blair Hou... new item... value, 876 ... & Master...

SALE - 3... Rm. Suit... Cedar Bo... Chairs, ... dressers, ... Miller Dr... Sun. 1-5.

1996 DIS... carry ... **CARPET** ...

SPO... **& APPLI...** 824-6621

LIKE NE... cu. ft. re... sell for $... Will help ...

AUTOM... dishwash... Call 332-0...

WHITE 3... cond., 824-...

RENT NI... VAC tha... and vac... sionally ... Hardwar...

U... **Rec...**

27

When lettering on newspaper, it is important that the letters stand out from the print. For this reason, the color of your lettering is extremely important. A bright red or orange is ideal. If the only color available is black, make big and bold letters!

If you are using some kind of ink, it may soak through the newspaper so place something beneath the newspaper to protect the surface of the table.

<u>You Have Mastered This Skill If</u>:

1. Letters are the same height.

2. Width of lines in letters is the same.

3. Bottoms and tops of letters meet column lines of newspaper or ruled lines between columns.

4. Letters are legible from a distance of 3 meters.

SKILL EXERCISE #11

FREEHAND LETTERING: FINISHING TOUCHES

This exercise in freehand lettering will give you additional skills in lettering as well as some ideas for individualizing your style.

Skill Requirement: #10

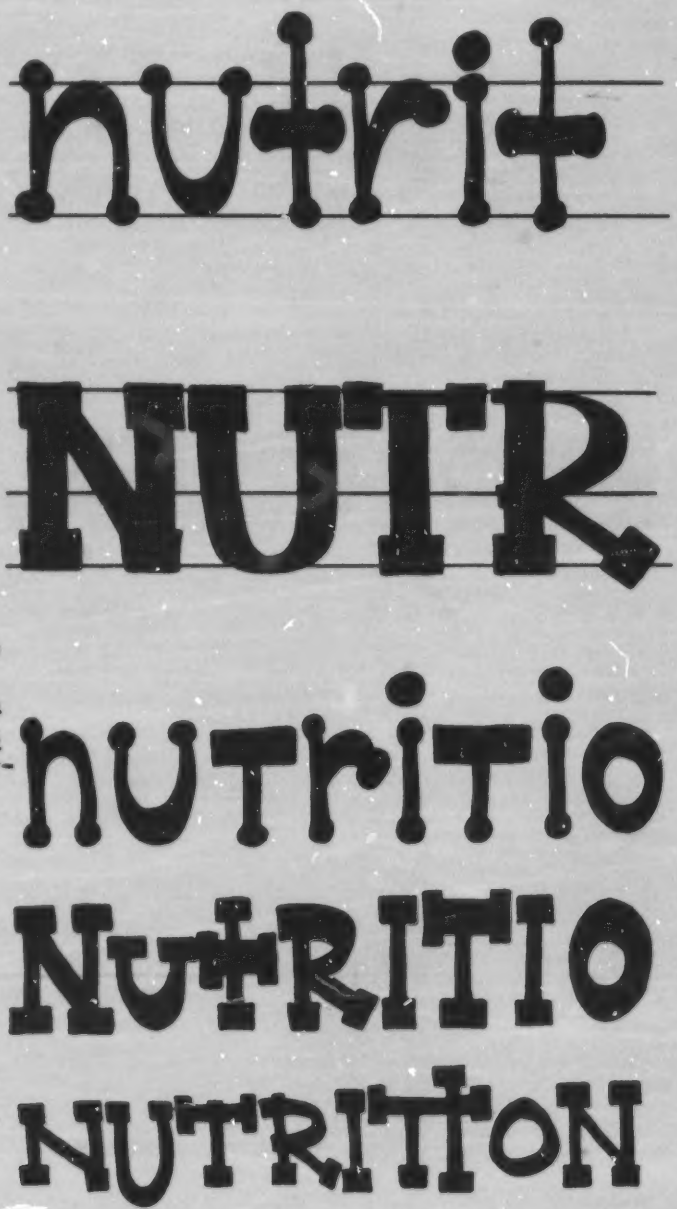
Materials: Broad-tipped pen and ink (or felt-tip pen or crayon); ruler; pencil; paper.

Process:

1. With your ruler, draw two parellel lines across the top of your paper. Draw another line between these two lines, positioning it just below a center point. With your writing utensil write the word "NUTRITION" using all upper-case letters. Write the word again, this time in lower-case letters--"nutrition."

2. Now go back and add end points ("serifs") to the printed letters, either a dot for lower-case letters, or a small square for upper-case letters.

3. Beneath these words, write the same words again, but this time do not use any guidelines. Let your eye serve as a guide. Since you no longer have any marked guidelines to follow, take care that your letter lines are straight. Experiment with different styles but remember, don't overdo it. You may make your lettering too difficult to read!



Suggestions:

These few lettering additions should be used with caution. They can be especially effective in making poster announcements, depending on your audience. If you find these small ornamentations are distracting to your audience or difficult for them to read, use only the straight, clearly defined letters.

There are many people who have difficulty in writing a straight line on unlined paper. If you are among those of us who find our words walking uphill or slowly sliding downhill, be patient and don't worry. Use guidelines if necessary (you can easily erase them) but keep trying!

You Have Mastered This Skill If:

1. All letters in word which use the same case (either upper or lowercase) are the same height.

2. All letters in a word are in a straight line.

3. You can write one word using small dots at both ends of the letters, and one word using small squares.

4. All letters meet evaluation criteria 2 and 4 in Skill Exercise 10.

SKILL EXERCISE #12

FREEHAND LETTERING: FAT AND FANCY

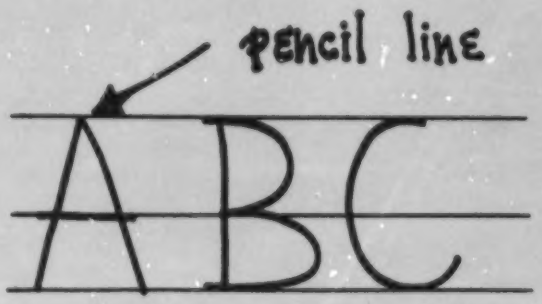
This exercise provides additional lettering skills and is particularly appropriate for lettering large posters and display announcements. Contrasting colors are used to set off letters.

Skill Requirements: #10 and #11

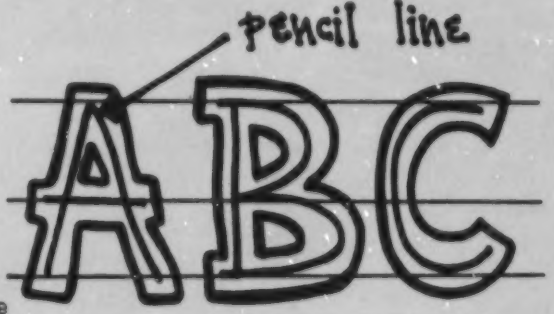
Materials: Pencil; paper; two colors of permanent ink or felt-tip pens or crayons, one black, the other orange, red, yellow or green.
Note: It is important to use permanent ink or felt-tip pens so that the colors do not run together.

Process:

1. With your pencil, lightly letter the alphabet in upper-case letters. Try to avoid using any ruled guidelines. Let your eye lead the way. (If you are still plagued with wandering letters, rule in your guidelines.)



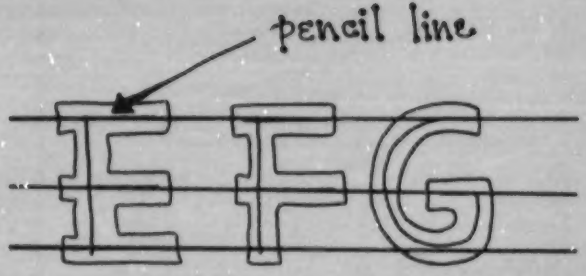
2. Now go back with your felt-tip pen and draw an outline around the inner and outer edges of the letter, extending it a distance of approximately 6 mm. Do not touch the penciled letter at any point. Do one letter at a time. After you have finished a letter, go back and fill it in. If you have totally lost the letter by enlarging the line, print the letter below and try it again.



3. When you have finished half the alphabet and are beginning to feel comfortable with this new skill, proceed in the following manner: draw an outline of the letter in black, erase the penciled interior and fill it in with another color marker or ink.

4. As you practice this skill you will notice that you can achieve a totally different effect by changing the size of your black outline. In this example, a smaller point pen was used to make the outline.

5. Once you have completed the alphabet, begin again. This time try to draw the outlines directly with the black marker. This will take some practice, so take advantage of any spare moments to practice this skill--try writing your name, friends' names, practice writing the titles of the different Prototype Lessons.



6. Finally, try creating a dimensional effect with your lettering. This lettering technique, which is good for attracting attention, should be confined to posters and announcements and even then, used sparingly. To write the word, "NUTRITION" using a fat freehand dimensional technique, first write the letter "N". Then, starting slightly above and behind the last vertical line of the "N", draw the top and inner curve of the letter "U". Complete the outside curve of the "U" and proceed to the "T". Again, starting slightly behind but above the right upward curve, begin the letter "T". This skill will take practice and patience. As with the other fat freehand technique, use different colors to fill in the middle of these letters.

<u>You Have Mastered This Skill If</u>:

1. You can print all letters in alphabet with outline in black and inner space filled with contrasting color.
2. Contrasting inner colors do not extend beyond black outline.
3. Inner spaces of letters remain open.
4. Letters are legible at a distance of 3 meters.

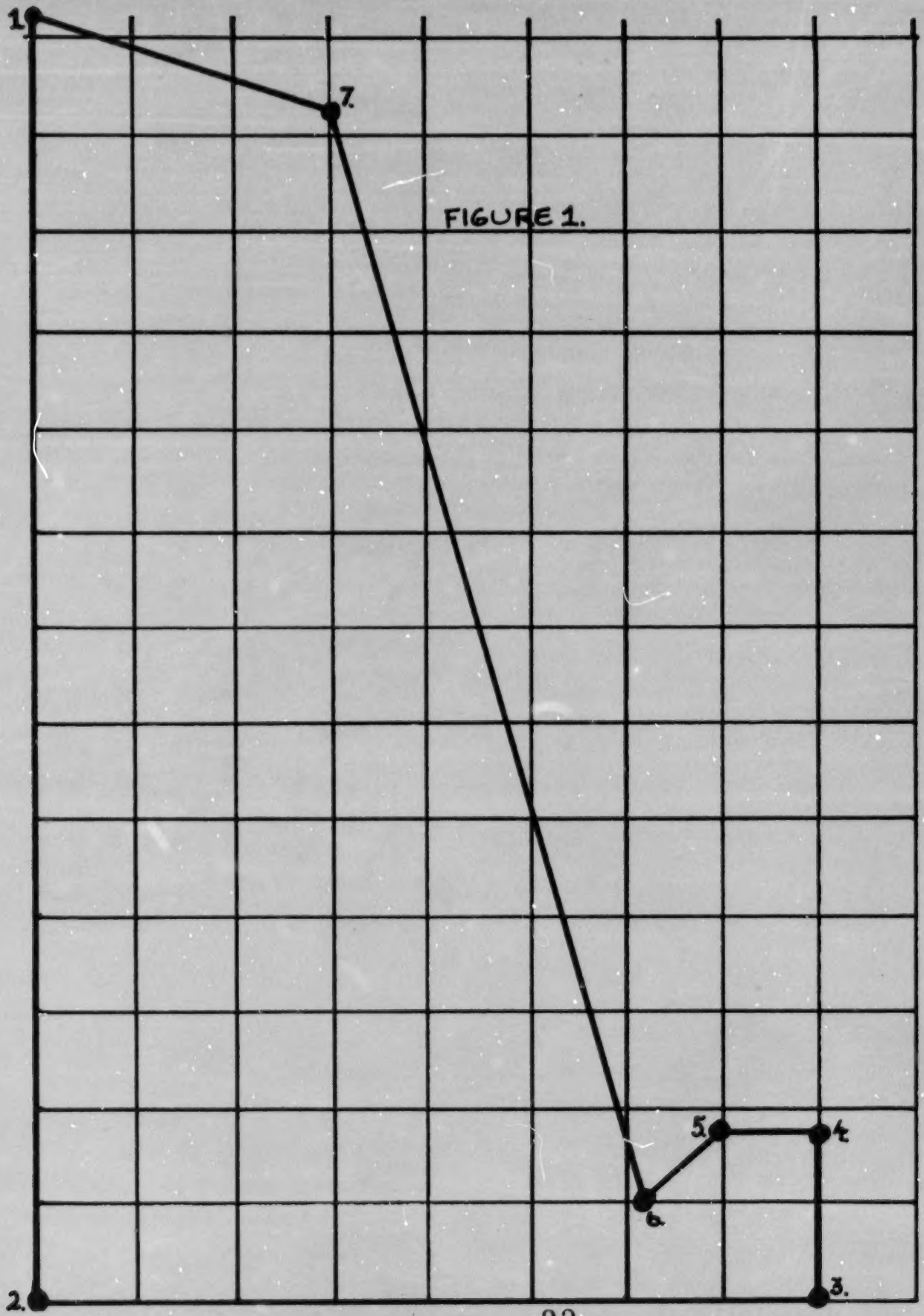


FIGURE 1.

28.

SKILL EXERCISE #13

CUTTING AND ENLARGEMENT: THE PORTABLE EASEL

In this activity you will be practicing the cutting skills learned previously and learning how to enlarge an image. The enlargement skill used here is known as "squaring" and can be used either to enlarge or reduce an image. In the process of learning these skills, you will be making a cardboard easel. You will find this cardboard easel ideal for holding pictures mounted on cardboard or a small flannelgraph when no large presentation board is available.

Skill Requirement: #1

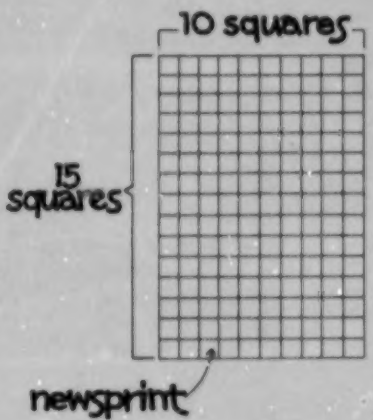
Materials: 2.5 cm wide tape; heavy cardboard (24-ply if possible) with dimensions of at least 20 cm by 35 cm; newsprint (at least 20 cm by 35 cm); razor; ruler; straight pin; model of easel (see Figure 1), Media Resource Book. (If 24-ply cardboard is not available, two pieces cut from cardboard boxes may be glued together.)

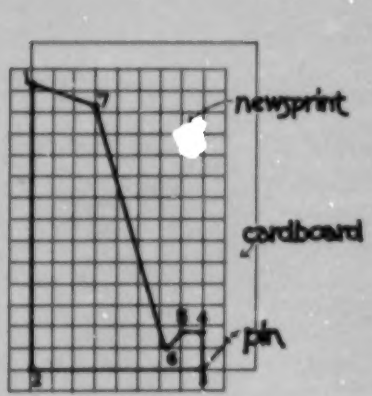
Process:

1. The first step in this process is to duplicate and enlarge Figure 1 (attached to this exercise) on the newsprint. To do this, make 2.5 cm squares by using your ruler to make a penciled dot at 2.5 cm intervals along all four sides of the newsprint.

2. With your ruler, make lightly penciled lines joining the dots. You should now have your newsprint marked off in 2.5 cm squares. As a check, make sure you have at least 8 squares across your paper, and 15 squares down.

3. With your pencil, place a heavier dot at points on the squares corresponding to dots 1 through 7 on Figure 1. Now, with your ruler, join these dots with a heavier line. To check again on your work, the line joining points 1 and 2 should cover 13 full squares and about ½ of the 14th square.



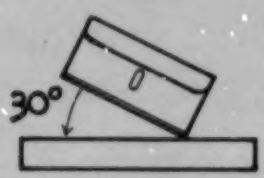


4. Place the newsprint over the cardboard with the long side and bottom of the enlarged easel pattern along the long edge and the bottom edge of the cardboard. This will save extra cutting along the bottom edge of the cardboard.

5. With a straight pin, puncture the easel drawing at points 1 through 7. Make sure you can see the pinholes when the newsprint is removed.

6. With your ruler, connect the pinholes on the cardboard with straight pencilled lines.

7. You are now ready to begin cutting the cardboard. It is extremely important that your cutting blade be sharp and that you hold the razor at a 30-degree angle. Hold your ruler firmly against the line which is to be cut, and use a series of repeated cutting strokes.



8. On another piece of cardboard (or on the cardboard you are using if you have enough space left), repeat the process beginning with step 4.

9. You should now have two pieces of cleanly cut cardboard that look like this.

10. Place the pieces of cardboard about 3/4 cm apart and tape them together over the space. Turn the cardboard over and tape on the other side. You now have a cardboard easel that is ready to use.

Suggestions:

You may want to brighten the easel by using colored tape or by painting the cardboard.

A more durable easel can be made with this same pattern if a lightweight wood is used instead of cardboard.

The advantages of this easel are that it is easy to make, easy to carry, and easy to store away.

You cannot use corrugated cardboard in this exercise because the cutting blade will catch on the fibers. Use densely packed, heavy cardboard.

You Have Mastered This Skill If:

1. All sides of easel are evenly cut with no rough edges.

2. Finished easel stands up and folds.

SKILL EXERCISE #14

BASIC ENLARGEMENT: THE SQUARING TECHNIQUE

In this exercise, you will build on the enlargement technique used in making a portable easel. You will be using this skill to reproduce a drawing in your Line Drawings Section.

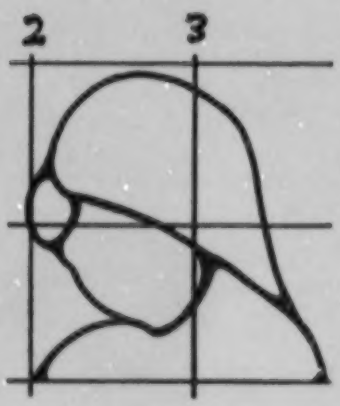
Materials: Cardboard (or heavy paper) cut to desired size; translucent grid paper from Line Drawings Section; pencil; ruler; pen (or felt-nib marker); black ink (permanent).

Process:

1. Select a drawing from the Line Drawing Section and tape the translucent grid paper over it. Count the number of squares across and the number up and down of the total image. For example, in the illustration shown, there are 5 squares across and 9 up and down.

2. If you want your final picture to be twice the size of the original one, measure the width of one of the grid squares from the Media Resource Book and then double this measurement. Be sure your enlarged image will have wide margins on all sides.

3. On your cardboard, lightly pencil dots at 2 cm intervals along all 4 sides. With your ruler, lightly connect the dots as in Skill Exercise #13. You should now have your cardboard penciled off in squares. Count the squares of your image (in the example, 5 and 9), and add at least 2 more squares on all sides than your image requires. You are now ready to begin enlarging.



4. Draw the lines of the original picture, one square at a time, on the squared cardboard until the picture is completed. The lines making the squares on the copy paper should be erased after the drawing is completed.

5. Make adaptations in dress and facial features of drawing.

6. Now go over your drawing with black ink (a black felt-nib marker or black crayon). When the ink has dried, color in the images with the appropriate colors.

Suggestions:

If you do not want to draw this image directly onto the cardboard, first enlarge the image onto a sheet of newsprint and transfer it to cardboard. (See Skill Exercise #16.)

If you make any mistakes in tracing over the penciled image with black ink, paint it out with white paint.

You Have Mastered This Skill If:

1. Enlarged picture accurately reflects proportions and angles of the original.
2. No pencil lines are visible.
3. Image is neatly outlined in black ink.
4. No color extends beyond the black outlines.
5. Completed picture is free of any dirt or ink smudges.

SKILL EXERCISE #15

TRACING: THE OVER TECHNIQUE

In this activity you will learn one technique for tracing images onto paper. It is suggested that you select a picture in Line Drawings Section which would be useful to you in developing visual materials for your work. To begin, select an image that does not require detailed work.

Skill Requirement: None

Materials: Line Drawings Section; clean sheet of translucent paper (i.e., paper you can see through easily); pencil; pen and ink (or felt-nib pen).

Process:

1. Select a line drawing and place translucent paper over it. To hold paper in place, tape edges.

2. Select a long, continuous line of the image and, starting at the top, begin tracing with your pencil.

3. Once the basic outline has been completed, go back and trace the smaller, more detailed lines of the image.

4. Holding the papers firmly with one hand, lift up one corner and check your tracing with the original image. Have you traced all the lines? Remove line drawings and examine your newly traced image. Add any details or features that will make your drawing more easily understood by the people you work with.

5. Beginning at the top of the image, with a thick-nibbed, dark ink pen, retrace your drawing. Always work from the top downward.

6. Add color.

Suggestions:

To keep your drawing from becoming smudged, you may find it helpful to slip a clean sheet under your hand as you work.

To avoid having the paper slip while you are tracing it, you may want to tape or tack the two sheets of paper together.

Images traced onto paper should be mounted onto a heavier material to give more permanency.

You Have Mastered This Skill If:

1. Image is accurately traced.
2. Ink outlines are smooth.
3. All pencil marks are erased.
4. No color extends beyond black outline.

SKILL EXERCISE #16

TRACING: THE CARBON TECHNIQUE

Using carbon paper is another means of tracing an image.

Skill Requirement: None

Materials: Line Drawing Section; pencil; paper; pen and ink; carbon paper from Line Drawing Section; crayons or colored felt-nib markers.

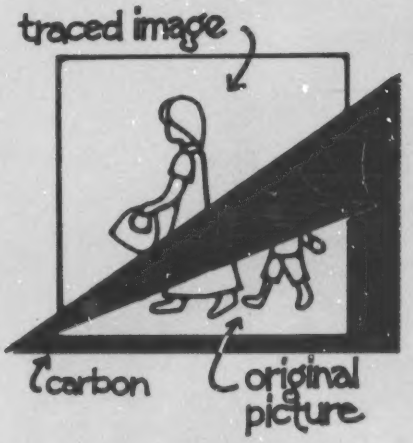
Process:

1. Place carbon paper inky side down, over paper. Place selected line drawings over these two sheets.

2. Hold the papers down securely (or tape them down) and pressing firmly, begin tracing with a long, continuous line of the image.

3. When you have completed tracing the image, remove one taped corner and check to see if the line image has been transferred. Have you missed any lines? Make any necessary corrections or revisions.

4. Retrace lines with ink (permanent) and add color.



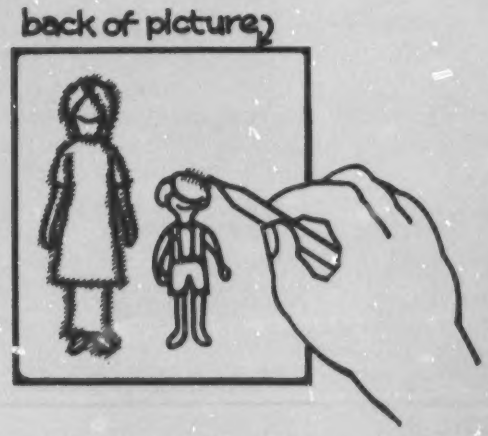
Another technique to use if carbon paper is not available:

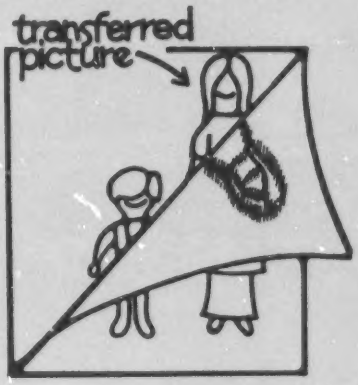
1. Place the visual face down on a clean, smooth working surface. With the side edge of a (carbon) pencil tip, apply a heavy layer of soft pencil lead to the image lines of the visual. All lines must be completely covered.

2. Turn the visual over and tape it to the surface of the paper on which the transfer is to be made.

3. Trace over the lines of the visual as explained previously. Check to be certain image has been transferred.

4. It is not necessary to press too firmly as this may leave an indentation on the transfer. Although you will find this technique works quite well, it does tend to smudge the final drawing.





Suggestions:

An advantage of using carbon paper is that multiple copies of the same image can be made if you use multiple sheets of carbon and paper.

Images traced using carbon paper can be transferred directly onto cardboard or heavy paper, thus eliminating the necessity of mounting the picture.

You Have Mastered This Skill If:

1. Image is accurately traced.
2. Ink outlines are smooth.
3. No color extends beyond black outline.

SKILL EXERCISE #17

TECHNIQUES FOR USE WITH THE BLACKBOARD EXERCISE

Before a group meeting, you may want to make some illustrations on a blackboard which you can refer to during the meeting. Here are two ways to do so. The first suggests ideas for preparing charts or diagrams using only a piece of cord or chalk. The second technique can be used when you want to use a particular drawing throughout a discussion but will be erasing other items on the blackboard.

Skill Requirement: None

Idea 1: Lines and Circles with a Cord

Materials: Chalk; cord or heavy string (which in length is longer than the combined height and width of the blackboard); blackboard; thumbtacks (optional).

Process:

1. Drawing straight lines on the blackboard without a ruler.

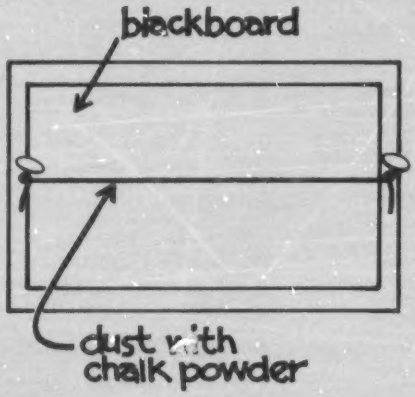
   a. Decide on the basic plan of your chart. Envision where you will want your lines to be placed on the blackboard.

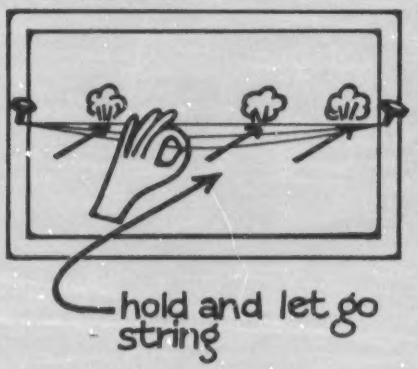
   b. At one end point of each line, place a thumbtack halfway into the wooden frame of the blackboard. If the board does not have a wooden frame, place dot or mark of some kind.

   c. If you are using tacks, make a small loop at one end of the string and loop it over a tack. Then rub the string with chalk, chalk dust or talcum powder.

   d. Now gently stretch the string to the desired distance and loop it over the other thumb tack. Pull it tightly with your free hand, raise the cord and let it go. Contact of the string with the board will produce a straight line.

   e. If you do not have tacks, you can tape the string to one end of the desired line and ask someone to hold the other end of the string





firmly in place while you stretch and pull the string. Or loop both ends of the string around your index fingers, stretch your arms out the length of the board, and flip the string up and down with your thumb.

2. Drawing Circles Using a Cord

Materials: Cord; chalk.

Process: Use the following technique to make circles.

a. Tie loop of string around the end of a piece of chalk. Holding the chalk in your writing hand, measure the radius of the circle you want and with the index finger of your other hand, press the string to the board at this point.

b. Draw the circle so that cord remains taut.

Idea 2: Sugar-Chalking

Materials: 1 part sugar to 1 part water; chalk; blackboard.

Process: This "sugar-chalk method" will allow you to erase other items on the board, while a particular drawing, figure, or diagram remains.

1. In a small container, place an equal amount of water and sugar. Dip the end of the chalk in this mixture for a few seconds.

2. Draw the figures which you hope to use throughout the lesson on the blackboard with the sugar-wetted chalk, dipping the chalk frequently into the solution.

3. When dry, the drawing may be retraced with dry chalk for added visibility.

4. Use of a dry duster or eraser will not remove the "sugar-chalk" drawing from the board. To clean board, use wet cloth.

Suggestions:

If available, use colored chalk to add interest and to emphasize points.

Use arrows to show relationship of various ideas. These arrows can be given added emphasis by making them large, using the flat side of the chalk. This same technique can be used with other marks which are attention-getting.

SKILL EXERCISE #18

BLACKBOARD STENCIL: DOT-DUSTING IMAGES

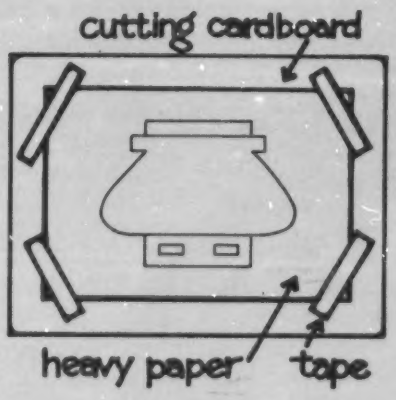
There are very few individuals who can draw quickly and clearly on the blackboard while leading a group discussion or delivering a lecture. To avoid unnecessary delays in drawing figures, charts or diagrams, you will find the preparation of a stencil made prior to the discussion most useful. In this activity, you will be preparing a stencil for the blackboard using the "dot-dusting" technique. You will want to select a picture or chart which you use frequently and which is difficult to draw freehand.

Skill Requirement: None

Materials: Picture; heavy, durable paper; straight pin or nail; tape; cutting cardboard or old magazine.

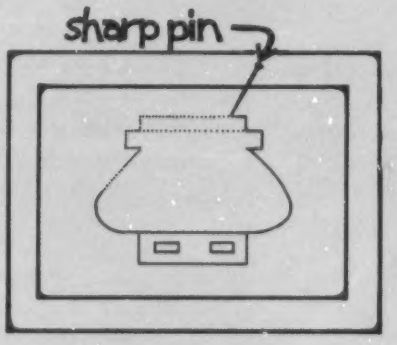
Process:

1. Center picture to be used on heavy paper and tape down edges; place both pieces on cutting cardboard or magazine.

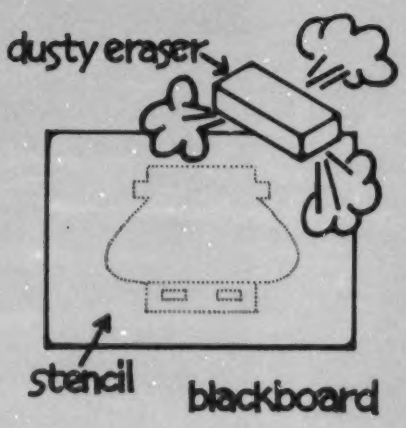


2. Using a sharp pin or nail, punch holes through the paper along the desired lines of the image. Along easy-to-follow lines, you need only punch a few dots. In areas requiring greater detail, increase the number of dots.

3. Continue punching holes in the image until you have transferred the outline of the picture onto the heavy paper. You will now have your stencil.



4. Tape your image onto the blackboard or hold it firmly in place with one hand, and with a dusty blackboard eraser or cloth which you use for erasing, rub it over the perforated image. A dotted image will be transferred to the board which you can now complete by joining the lines.



Suggestions:

Be sure the holes you punch on the heavy paper are open and clean. This can be assured by doing the hole punching on an old magazine of soft cardboard surface. Do not work directly on a hard surface.

To improve the punched holes, scrape the rough side of the stencil with a razor blade or fine piece of sandpaper.

You Have Mastered This Skill If:

1. Holes are cleanly punched along all lines of picture.
2. When dusty eraser is used on stencil, a dot outline of the image appears.
3. Picture selected is one of frequent use and too difficult to be quickly drawn freehand on blackboard.

SKILL EXERCISE #19

BLACKBOARD STENCIL: SIMPLE SCREEN IMAGES

Among the many ways of transferring a complicated drawing or illustration onto a blackboard is the screening technique. In this activity, you will be using a piece of screened material, such as mosquito netting, to trace an image onto the blackboard. As in the dot-dusting stencil technique, this screen stencil can be used repeatedly.

Skill Requirement: None

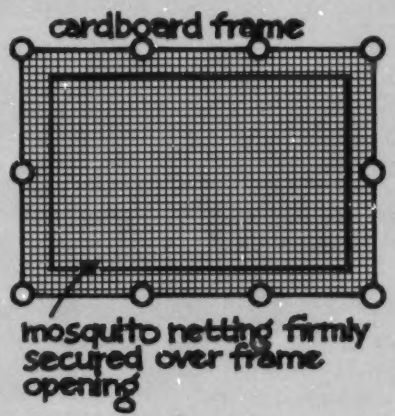
Materials: Cardboard mounting frame; mosquito netting; staples or thumbtacks; image to be transferred; paint and brush or crayon or felt-point pen.

Process:

1. Prepare a screen frame, using the following simple method:

   a. Cut the center out of a piece of cardboard to frame the picture. This center hole should be larger than the picture to provide ample space for drawing.

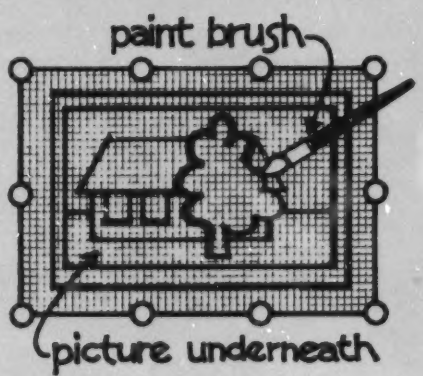
   b. Stretch a piece of mosquito netting over frame and secure firmly.



2. Place screen over picture to be traced. With a crayon, felt-tip pen, or using brush and thin paint, trace the image onto the screen. Your stencil is ready.

3. Place screen flat against chalkboard and draw over the painted lines with chalk.

4. Remove the screen and go over the lines with chalk to make them clear.



Suggestions:

By using several colors of paint, several outlines can be made on the same screen which can be used indefinitely.

THE CHALKBOARD

In using the chalkboard in your work with village audiences, keep in mind the following points:

Advantages of the Chalkboard:

. Does not use electricity or require special arrangements.

. Is cheap, simple, effective, and can be made from easily obtainable materials at minimum cost.

. Alterations can be made easily, errors erased without difficulty.

. Can be used with a variety of teaching techniques, for a variety of different subjects and with different audiences.

. Chalkboards can be made portable or permanent. See Recipe Section for Ideas.

Preparations For Using The Chalkboard:

. For the chalkboard to be used most effectively as a teaching aid, planning and preparation before the group meeting is an absolute "must." Divide the board (at least mentally) into two parts: one to be used for the subject, the other for notes, questions and comments from the group.

. Before the meeting, make a rough draft of the important points you want to put on the board and any drawings you will want to include. Plan it as it will appear on the chalkboard.

. Diagrams and drawings should be prepared beforehand, using techniques learned in Skill Exercises 18 and 19.

. Do not overcrowd the board. Present only major, relevant points. Make big, bold figures and letters that can be easily seen by everyone.

. Keep your lettering simple (printed rather than script) and large. As a general rule:
    5 cm letters are readable at a distance of 4.5 meters.
    8 cm letters are readable at a distance of 7 meters.
    Leave space between lines equal to size of letters used.

. Erase what you no longer need.

. If your audience does not read, stick figures or other illustrations can add to your presentation. Sketching stick figures in motion can be particularly effective.

Using the Chalkboard:

- Make sure everyone can see. If people are sitting too far back, encourage them to move forward. If the meeting takes place outside, the sun or other source of light should be behind the audience.

- Don't talk while drawing on the board or erasing the board. It will be difficult for the audience to hear you.

- Encourage members of the group to use the chalkboard to express their ideas also. If group members have not done this before, they may be hesitant to step forward at first. You may want to speak with two or three group members before the meeting and ask them to come forward to draw ideas on the board so that others will see this is acceptable.

THE FLANNELGRAPH

Consider the following points in preparing your materials for use on the flannelgraph.

Advantages in Using The Flannelgraph:

. Can be made portable, or easily constructed on the spot, and involves low-cost, easily obtainable materials.

. Requires no electricity.

. Can be used with a variety of teaching techniques with different subjects and different size audiences.

. Ideal for encouraging group participation.

. Objects prepared for flannelgraph are easily prepared and reusable.

. Can be paced at tempo of group discussion.

. References can be made to the same illustration several times to clarify a point.

. Objects on the flannelgraph can be easily moved by you or members of a group to express different ideas.

. Can be used to show both a sequenced action or comparison of ideas.

Preparation For Using Flannelgraph:

. A wide variety of objects can be used on the flannelgraph. These include: flash-cards, cutouts, symbols, figures, photographs, and cloth cutouts.

. As with other visual materials, planning is essential to using the flannelgraph. Make a list of the key points you wish to stress. Opposite each idea, make a note about how you can best illustrate that point. For example, do you have an appropriate photograph or picture from a magazine? Or would a simple symbol or one word be more effective?

. If you want to encourage the members of the group to participate, they will enjoy doing so with the flannelgraph if you plan carefully. For example, if you are talking about infant nutrition, you might place pictures of babies at various ages on the board and then ask members to select from a wide assortment of food pictures and place on the flannelboard those which should be prepared for each baby. (See Prototype Lesson #2.) Other ways visuals may be used, and which may be adapted to the flannelgraph, are suggested in Unit XI, Activity F of the training section.

- Limit the number of materials you use on the flannelgraph so that you don't spend all your time putting up and taking down the objects.

- After you have prepared your materials, number them on the back in order of presentation. If you have made a list of the sequence of ideas you will be presenting, indicate the visual you will be using beside each idea.

- Use big objects that are easy to see.

- Use color when possible.

How to Use the Flannelgraph:

- Set up the flannelgraph where it will be most visible to the group and most protected from the wind.

- Make sure the board is tilted slightly backward at a 10-degree or 15-degree angle.

- Brush the flannelboard before using if the texture is not rough enough or if the cloth is dirty.

- Encourage the members of the group to participate. This is one of the best features of the flannelgraph, so use it fully!

THE FLIP CHART

The flip chart is a series of drawings, pictures, charts or other visual materials which tell a story or visually demonstrate how to do something.

Advantages of the Flip Chart:

- Portable, can be carried under your arm.
- Easily constructed; uses low-cost materials.
- Can be used for home visits and small group presentations.
- Requires no equipment or electricity.
- Reusable and adaptable. Pages can be added or deleted or completely changed as necessary.
- Can be paced at the tempo of group discussion.
- Ideal for presenting steps or stages in a process, thus making it ideal for use in demonstrations.

Preparations for Using Flip Chart

- As in all preparations of visual materials, do a visual plan of your intended presentation, making simple stick figures for desired illustrations along with words to go with them, if necessary.
- 12 to 15 drawings are adequate for a flip chart series. If you can cover the subject with less, do it.
- Illustrations can be of any type--mounted pictures cut from magazines, traced images, stick figure sketches, or your own freehand drawings. Remember: (1) make them big and bold with thick outlines; (2)show movement and actions in progress; (3) use color; (4) do not crowd the page.
- If you are including any writing, use only a few words or a short sentence.

How to Use the Flip Chart

- When your flip chart has been put together, write down the key ideas you want to stress with each picture. Write any questions you might want to ask. Copy or glue these notes on the back side of the page before the picture so that you can make quick reference to these notes when using the flip chart.
- If it is a freestanding flip chart, sit slightly behind it. Practice flipping the pages so that it does not disrupt your conversation. If the flip chart is not freestanding, hold it in your lap or use a small presentation stand.

- The flip chart is ideal for showing a step-by-step progression in doing something such as:
  - steps in preparation of a specific food.
  - how to make or construct things (a dress, simple furniture).

- If your flip chart has been constructed so that the inside back cover can be used as a flannelgraph, consider summarizing main ideas of the presentation on the flannelgraph.

SOME IDEAS ON COLOR

Color is a visual attention-getter. It adds interest to illustrations and displays; and it can improve, relate and/or identify specific images or figures within a picture. Here are some ideas on color you will want to consider in preparing instructional visual materials.

Color and Cultural Response

The attraction level of a color is related to feelings that people have about that specific color. These preferences vary with age, sex, and culture. In some cultures, black is associated with death and old age, purple with royalty, orange with religion. As an activity for the group, list several colors which are common in your area. To the side of each color, ask the group to write the feeling which your culture attaches to it.

Color	Cultural Response
Black	_____
Red	_____
Orange	_____
Green	_____
Yellow	_____
Brown	_____

The meanings which people attach to colors can also be associated with negative or positive feelings. Now ask the group to mark a "+" by those which convey positive feelings and a "-" by those which convey negative feelings.

When developing educational materials, use colors associated with positive feelings for the positive parts of the visual message and colors associated with negative feelings for the negative parts. For example, when contrasting the right and wrong way of doing something, select a positive color for the right way, and a negative color for the wrong way.

In addition to certain qualities or feelings a culture attaches to a color, individuals also have certain preferences.

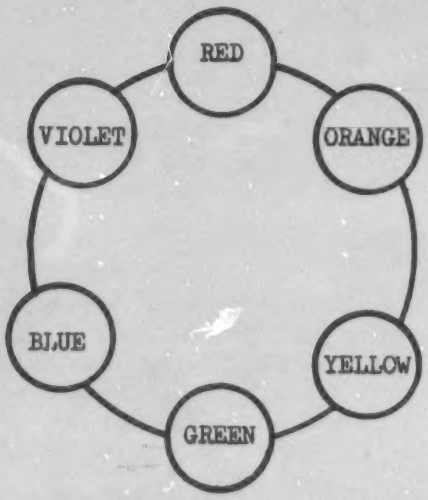
What is your favorite color? _____

Do you know what the favorite color is of the people with whom you work? _____

If you don't know, you can easily find out either by asking or observing, or you can take strips of different colored paper or pieces of cloth to the villagers to arrange the colored strips in order of preference.

Contrasting Colors

Colors also can attract attention when they contrast. Use contrasting colors to emphasize a particular part of a visual, or to separate images within a visual. In the color wheel, the colors which are opposite each other on the wheel are contrasting colors.



Color Wheel

Harmonizing Colors

Using colors which harmonize is a way in which to relate one part of a visual to another -- a way of "tying a picture together." Looking at the color wheel again, colors that are near each other on the wheel usually harmonize well. For example, yellow and orange go well together as do blue and green.

Points to Remember

Color combinations, either contrasting or harmonizing, should be kept simple. Use only a few colors and remember the above points. More importantly, keep in mind the color preferences of the people you work with and particularly the meanings or feelings which are associated with specific colors.

SOME IDEAS ON DESIGN

The design of visual materials can focus attention on the points to be communicated or learned. There are 5 factors to consider in designing materials:

Simplicity. Keep your visual materials simple. Do not confuse the picture with distracting elements--too many words, pictures, or colors--which confuse the main idea you are putting across.

Pattern. The parts of visual materials should be arranged in a pleasing fashion. There are no fixed rules; you will want to experiment with various layout possibilities.

Balance. Balance is the way the parts of the visual relate to each other.

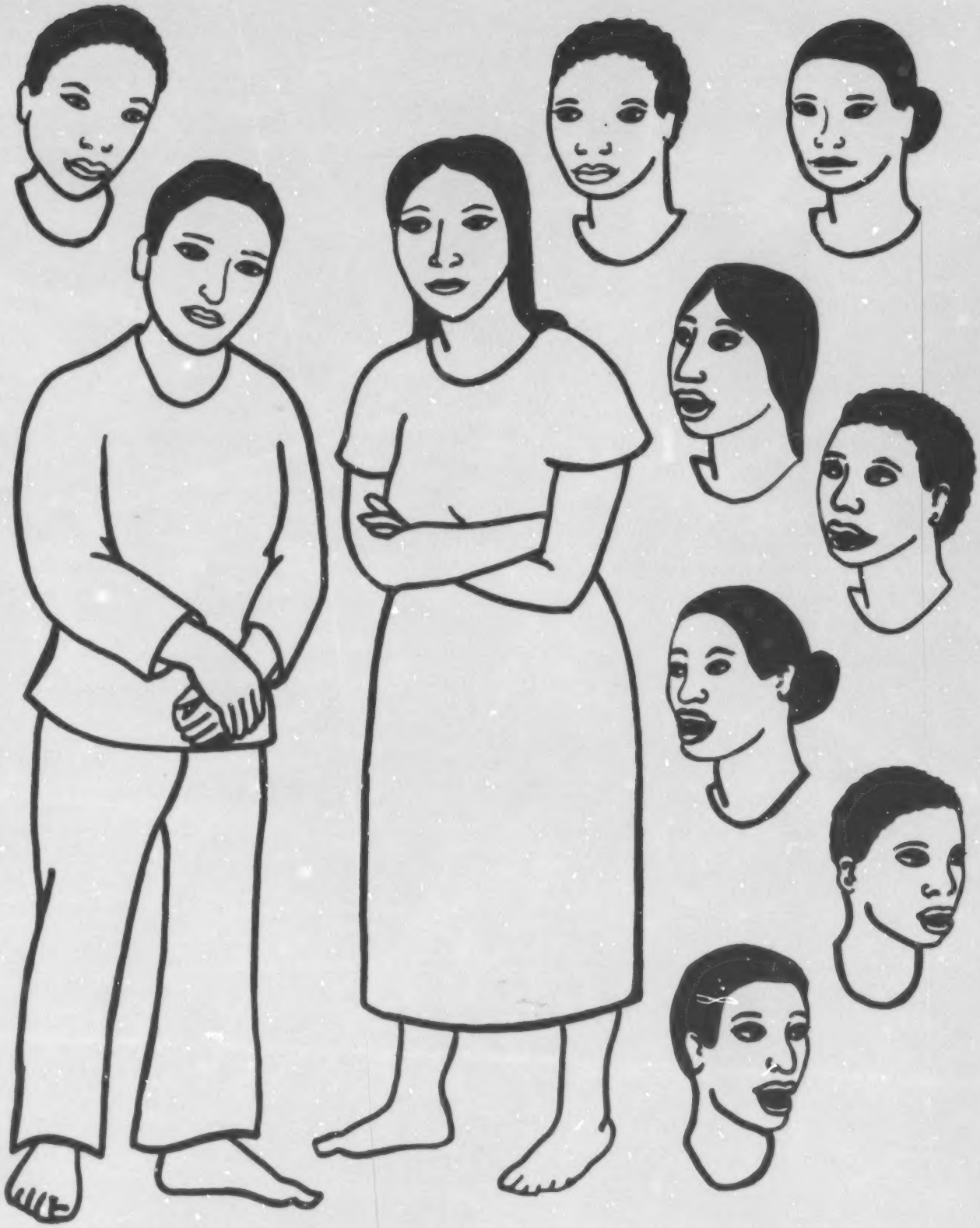
- Small, dark objects will balance a large, light object.
- Small, textured area will balance a large plain area.
- Several small shapes will balance a large shape.
- A small, irregular shape will balance a large, regular shape.
- There should be more space at the bottom of the illustration than at the top.

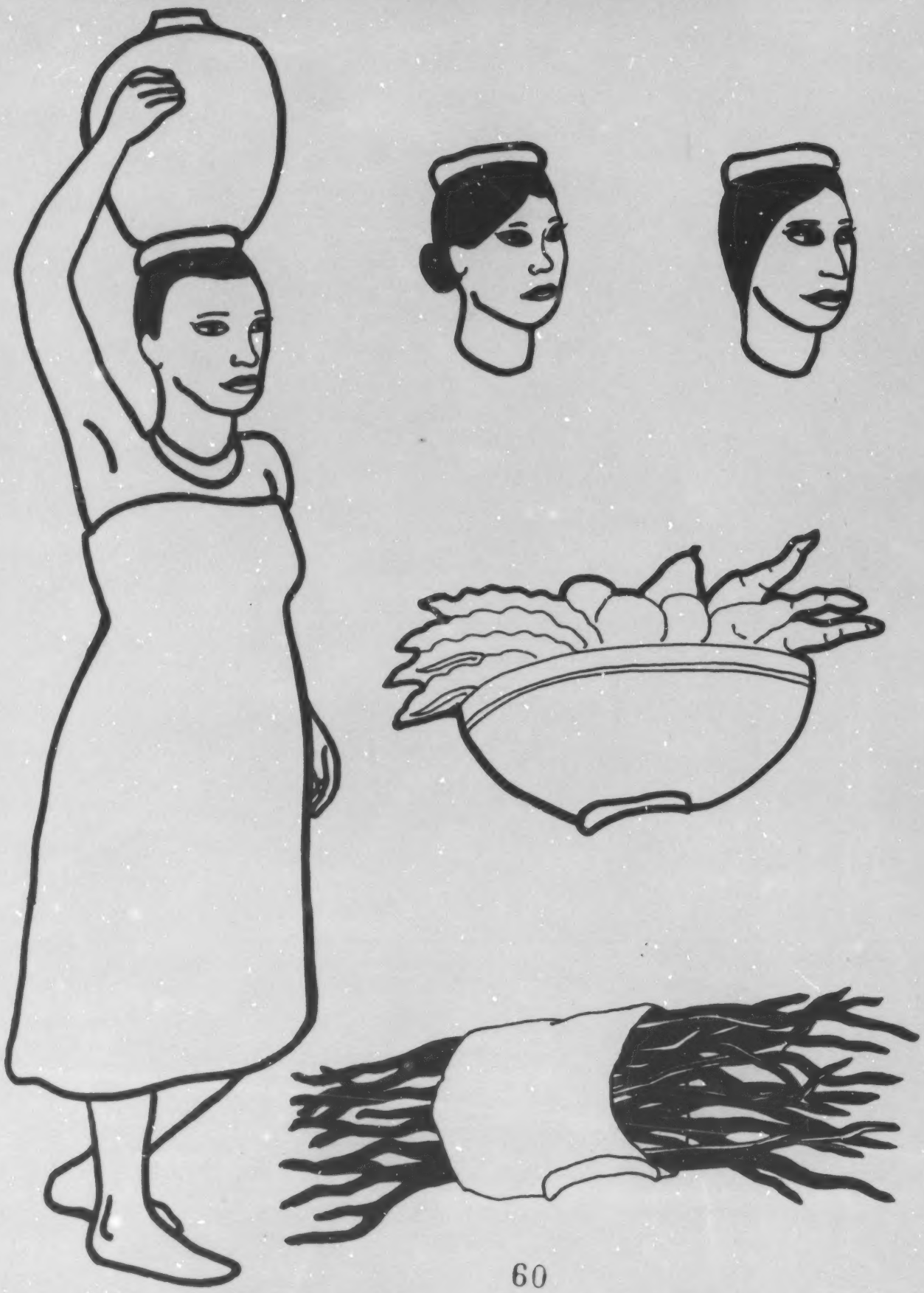
Emphasis. The most important ideas or elements of a visual material should stand out from their surroundings. This can be done by making the key ideas different in size, shape, color, texture, or position. For example, surrounding a picture, object, or image with white space will draw attention to the object.

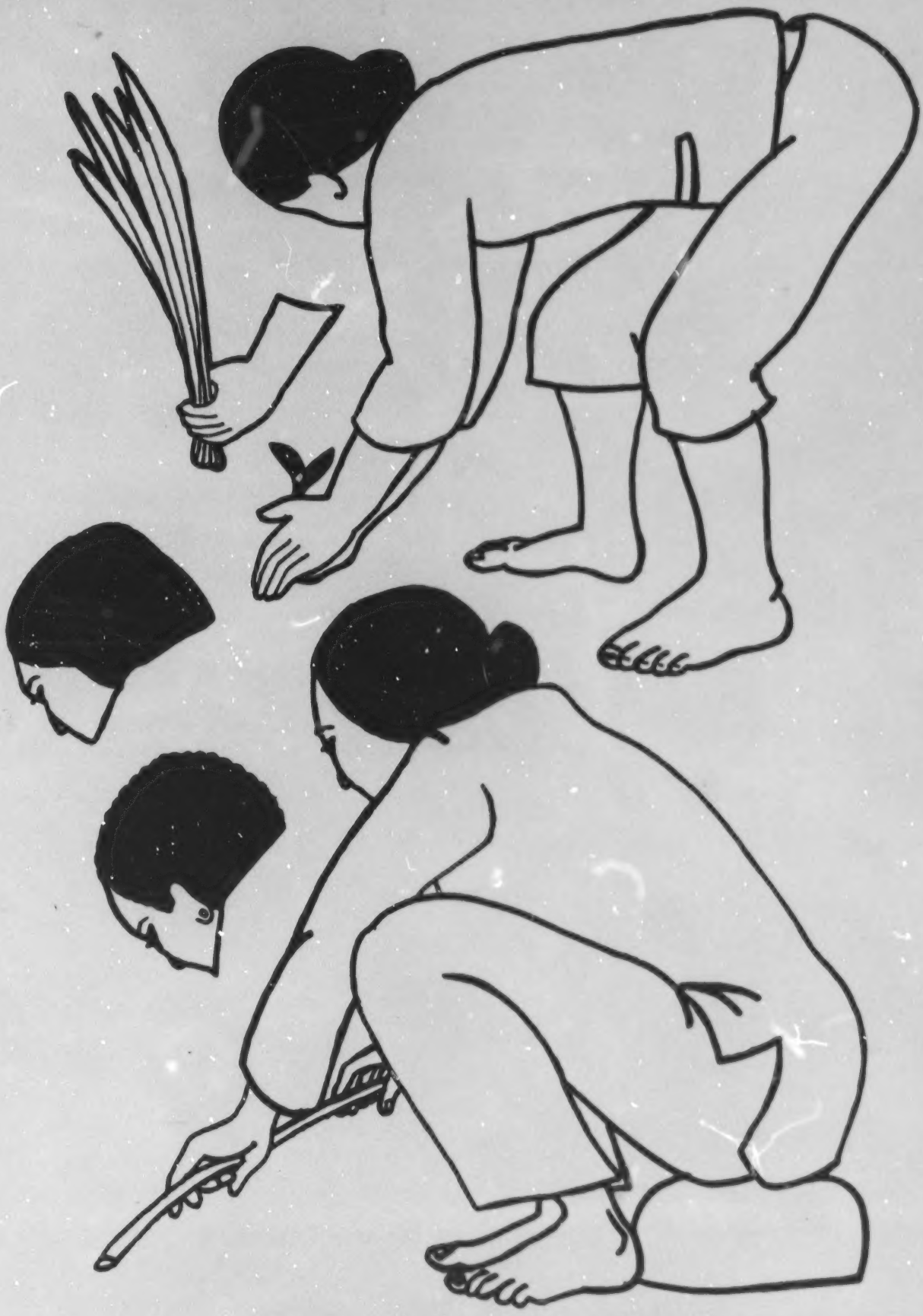
Harmony. Harmony is the way in which the elements of a visual blend together. This can be achieved by using colors that blend (see the color wheel in "Some Ideas on Color"), and shapes that go well together.

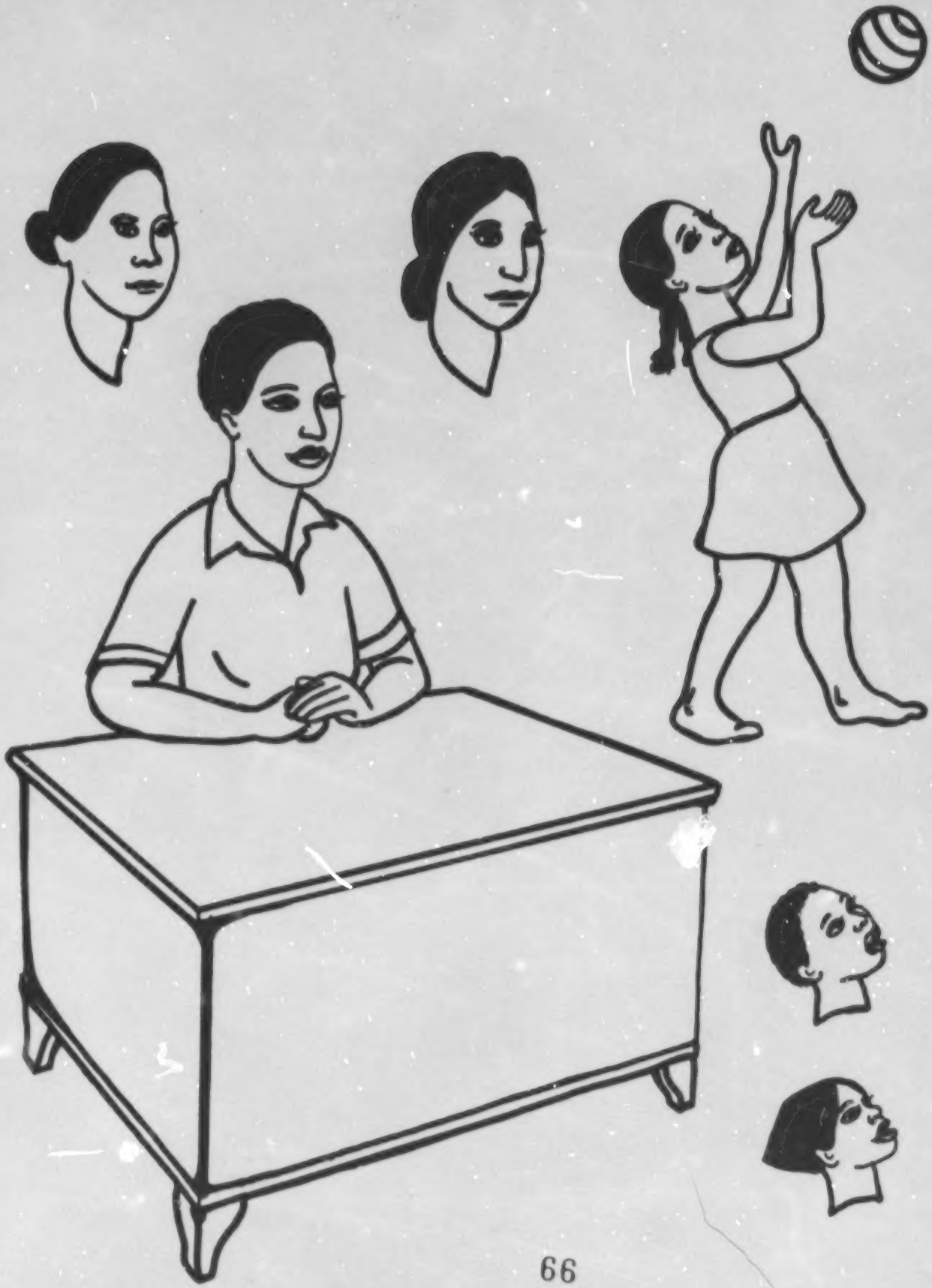
Line Drawings Section

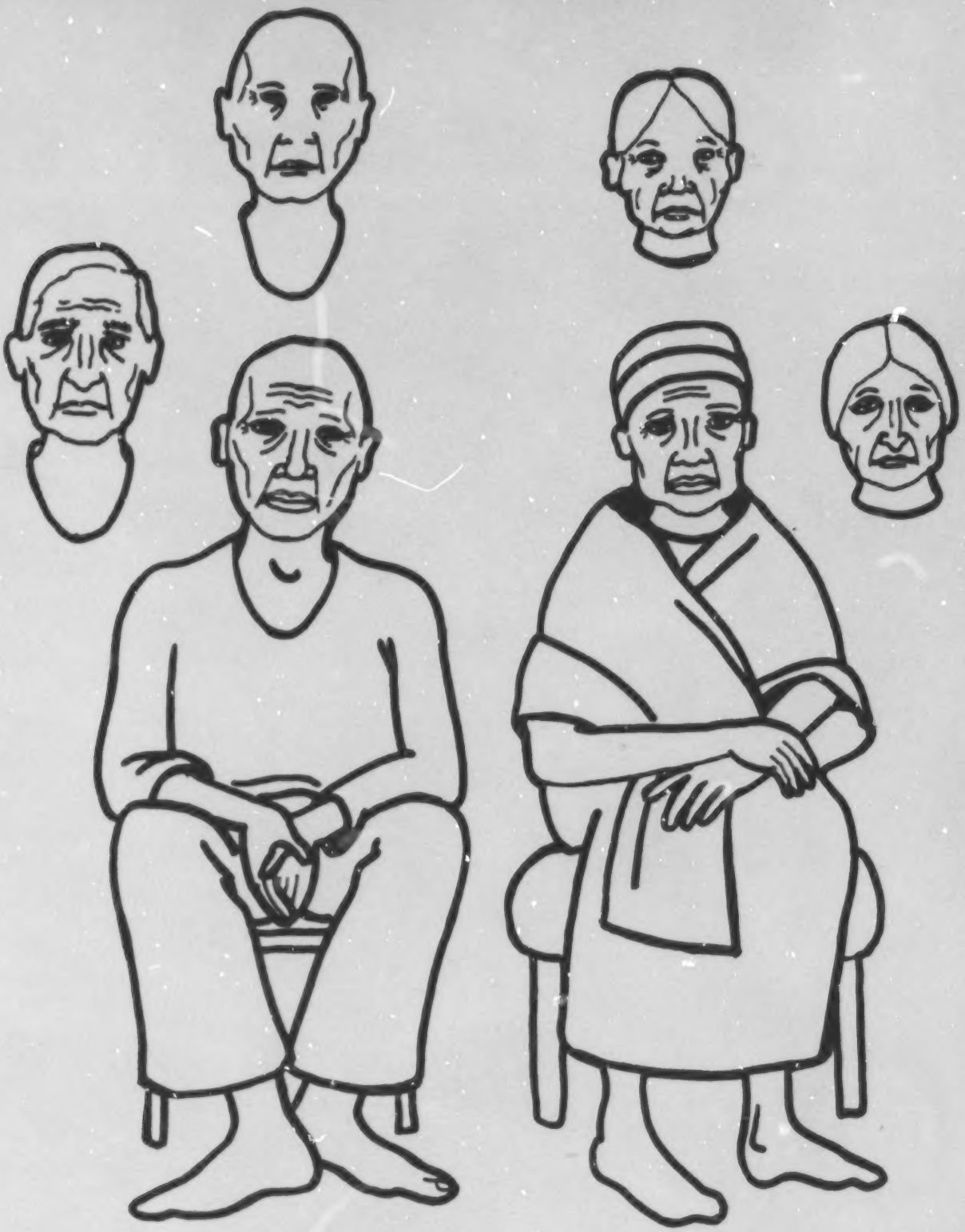
Artists: Jim Andrews
Diane Kordich

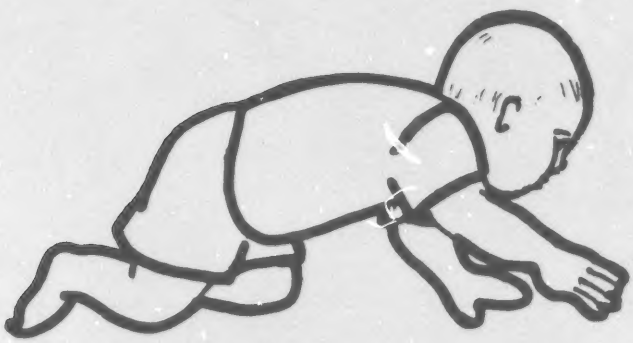


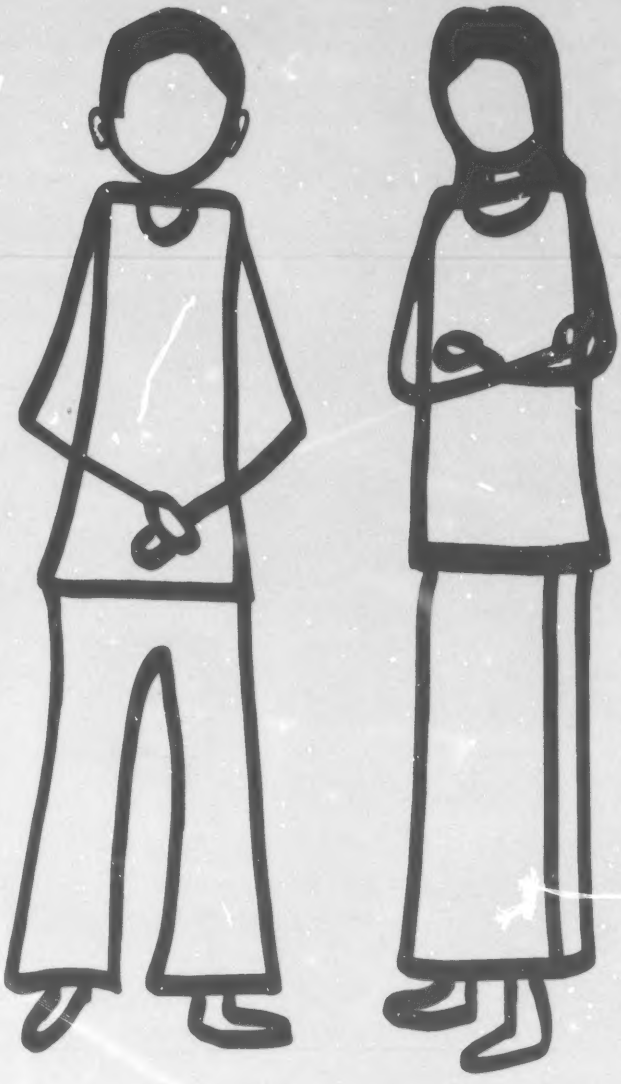


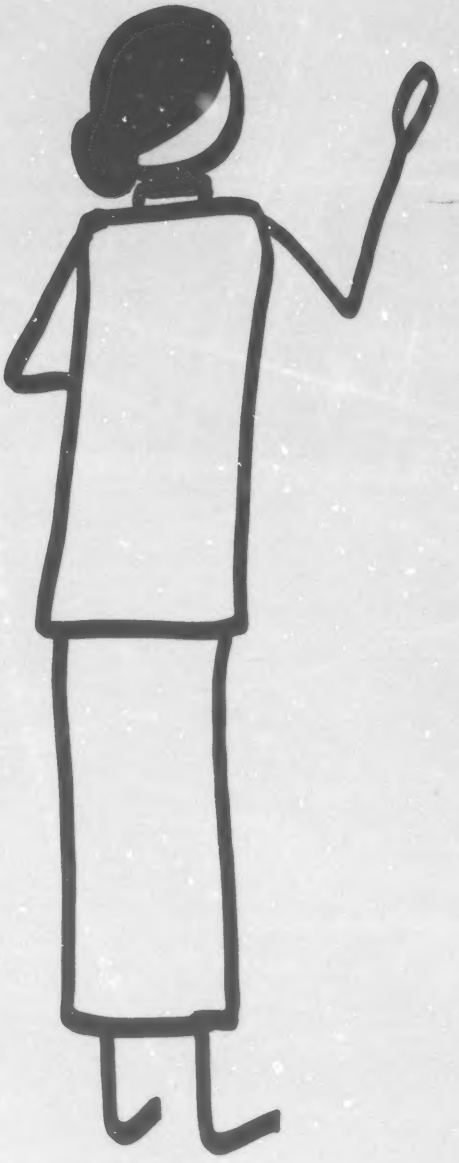


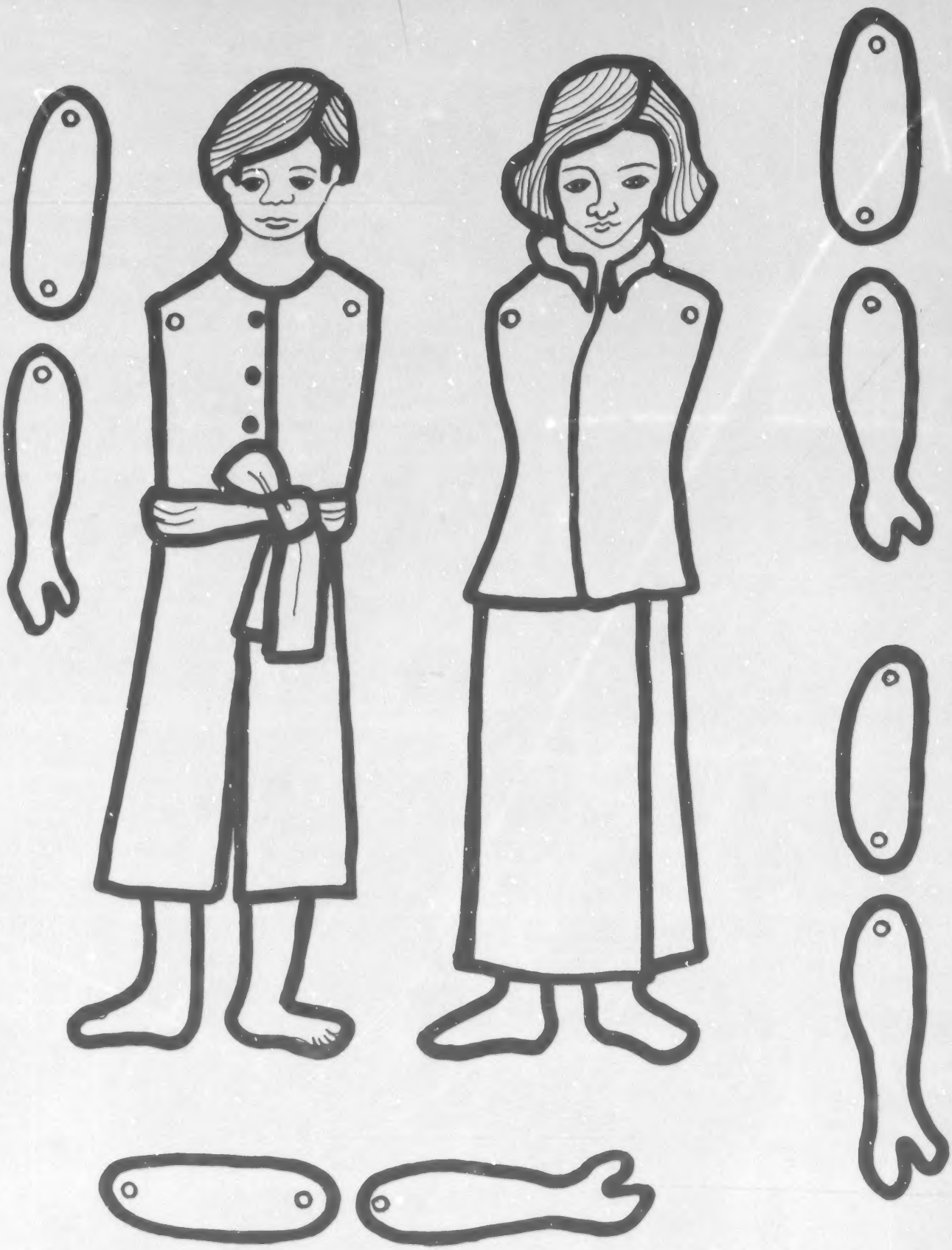


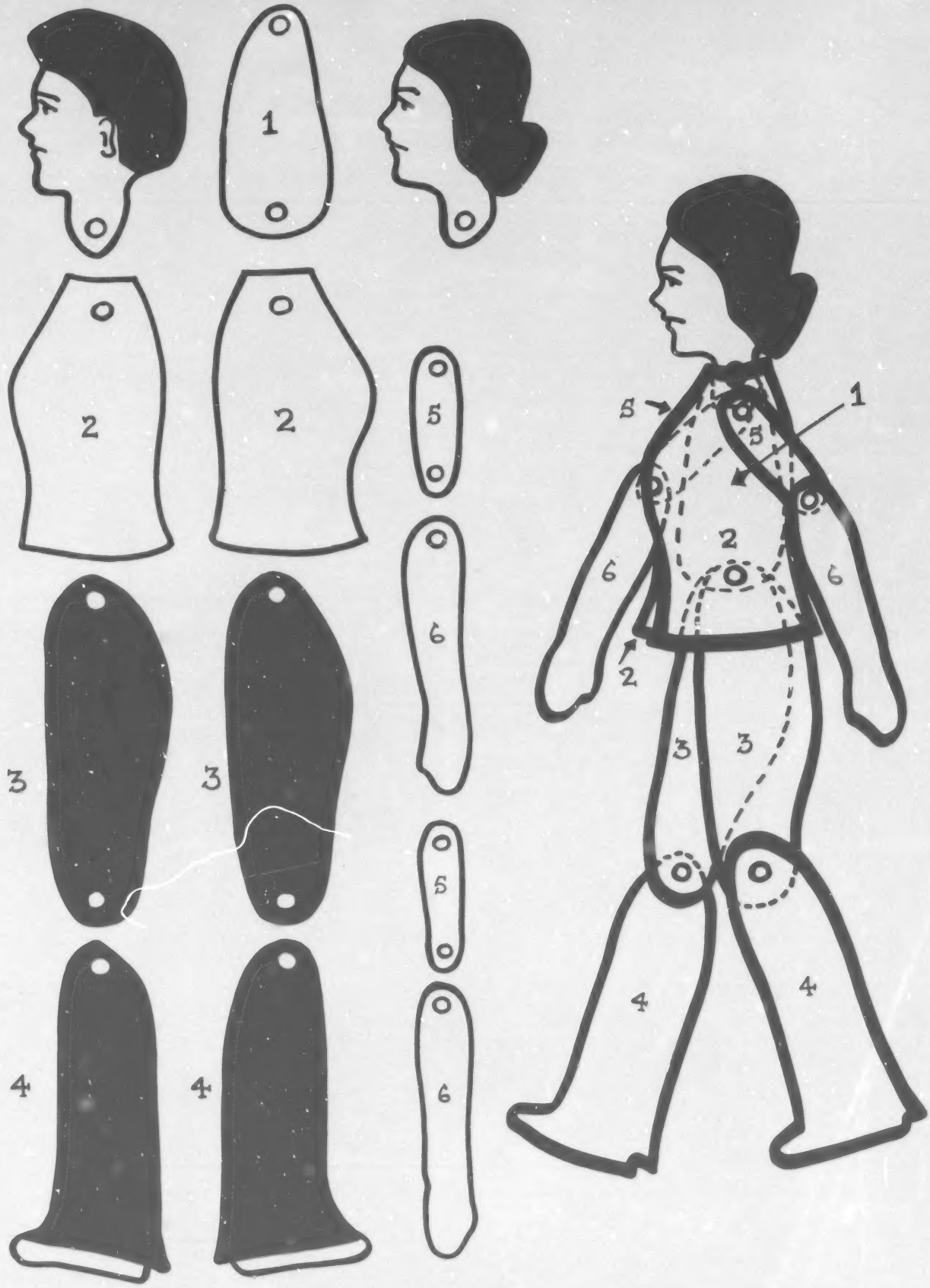








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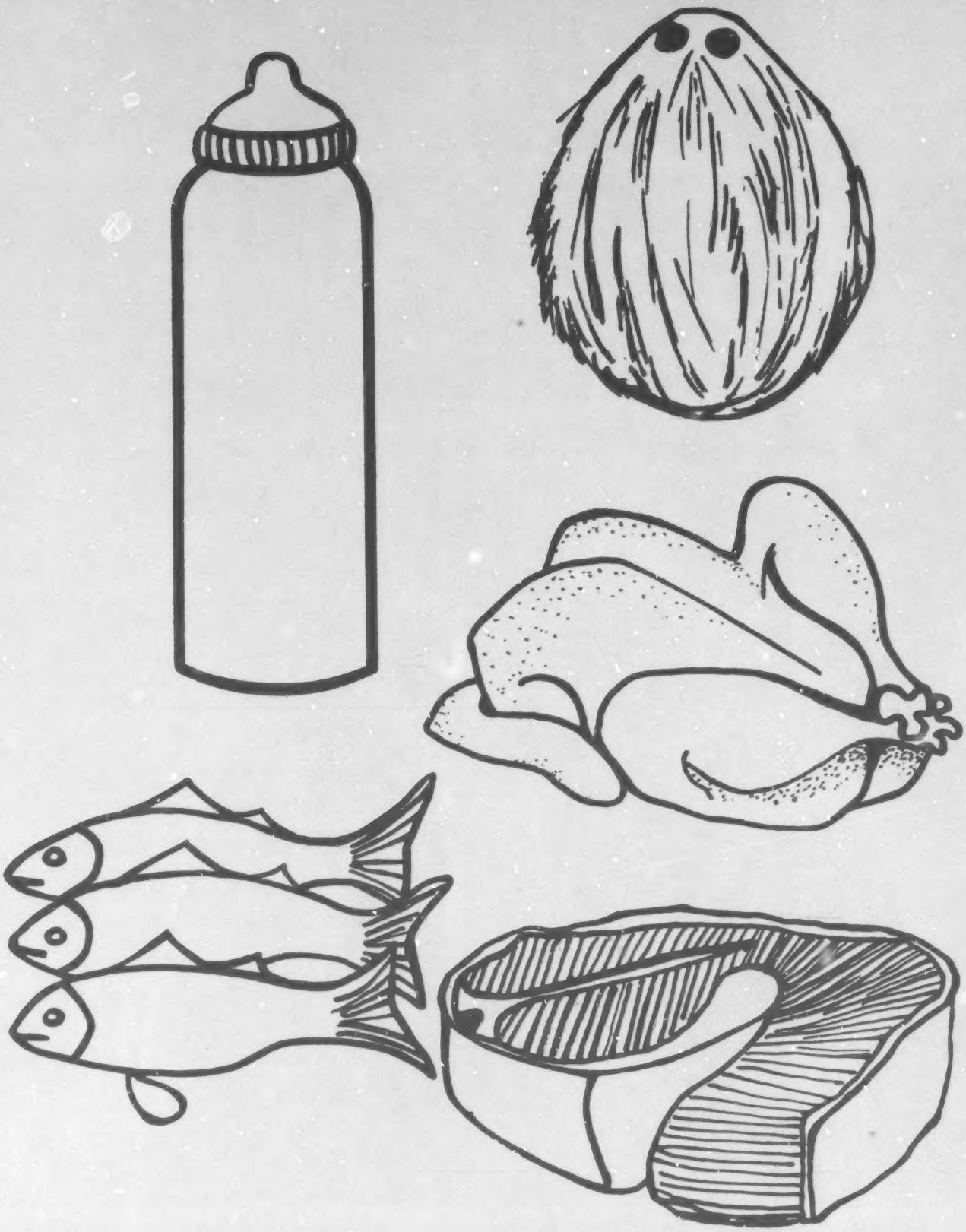

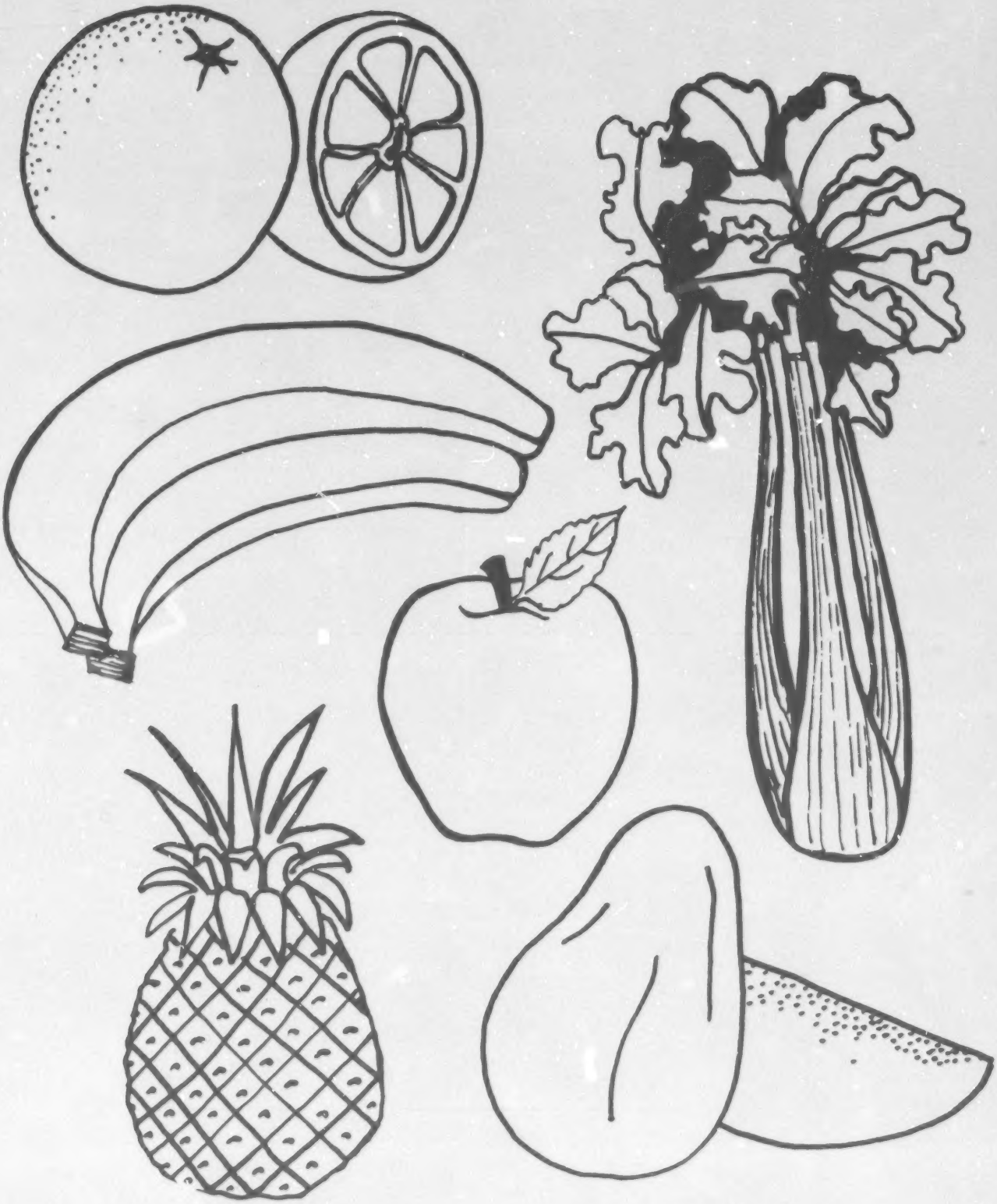

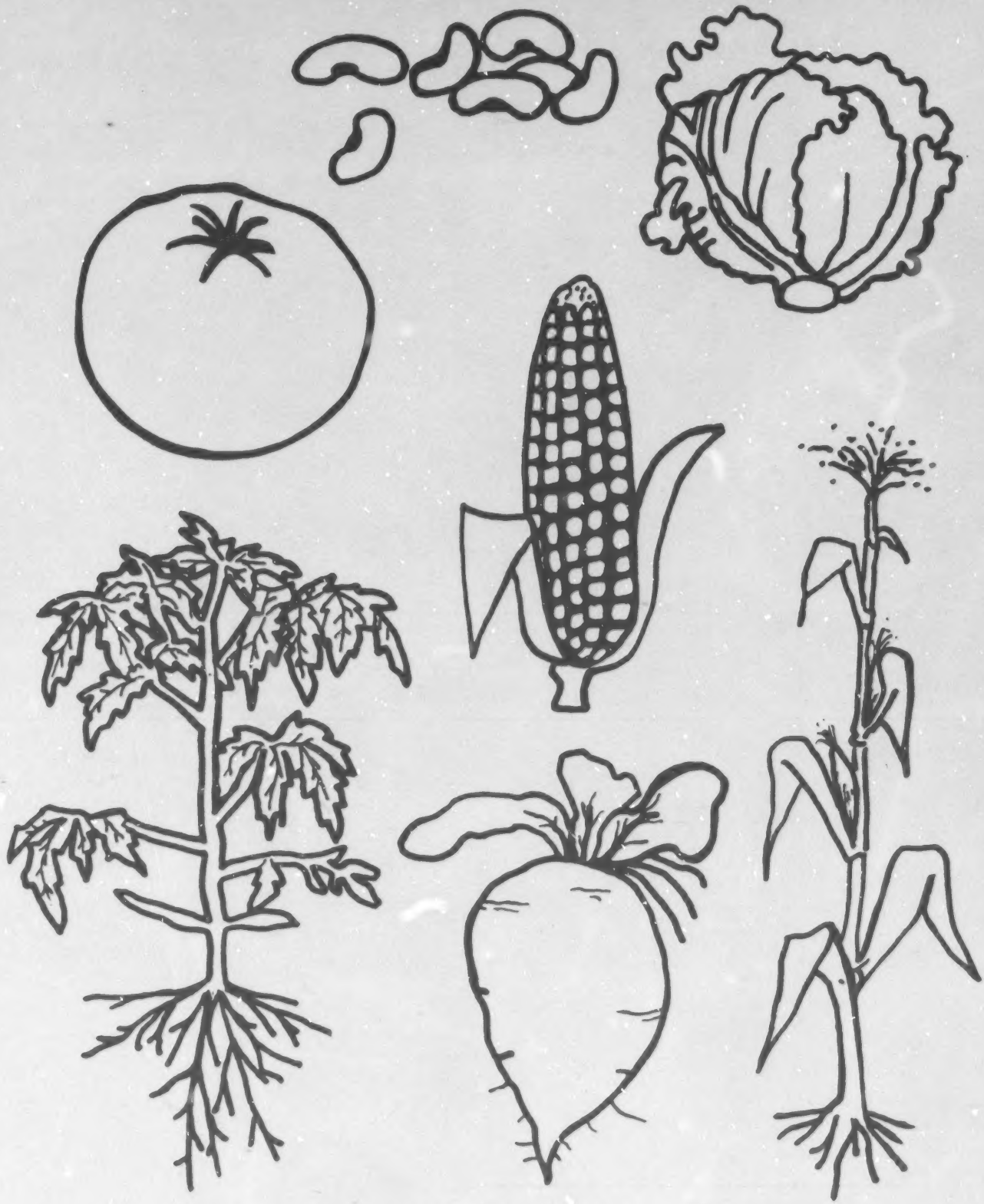

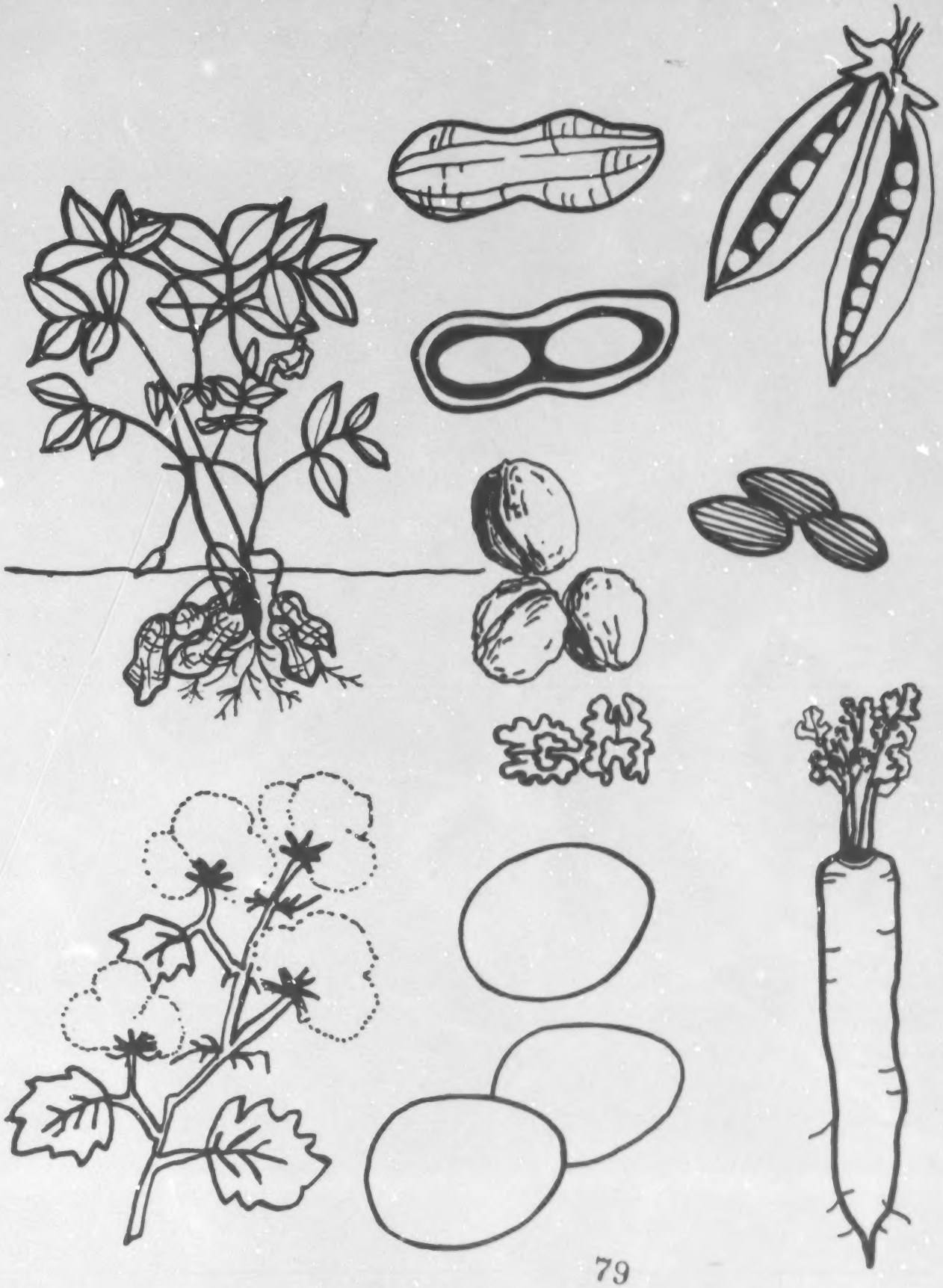

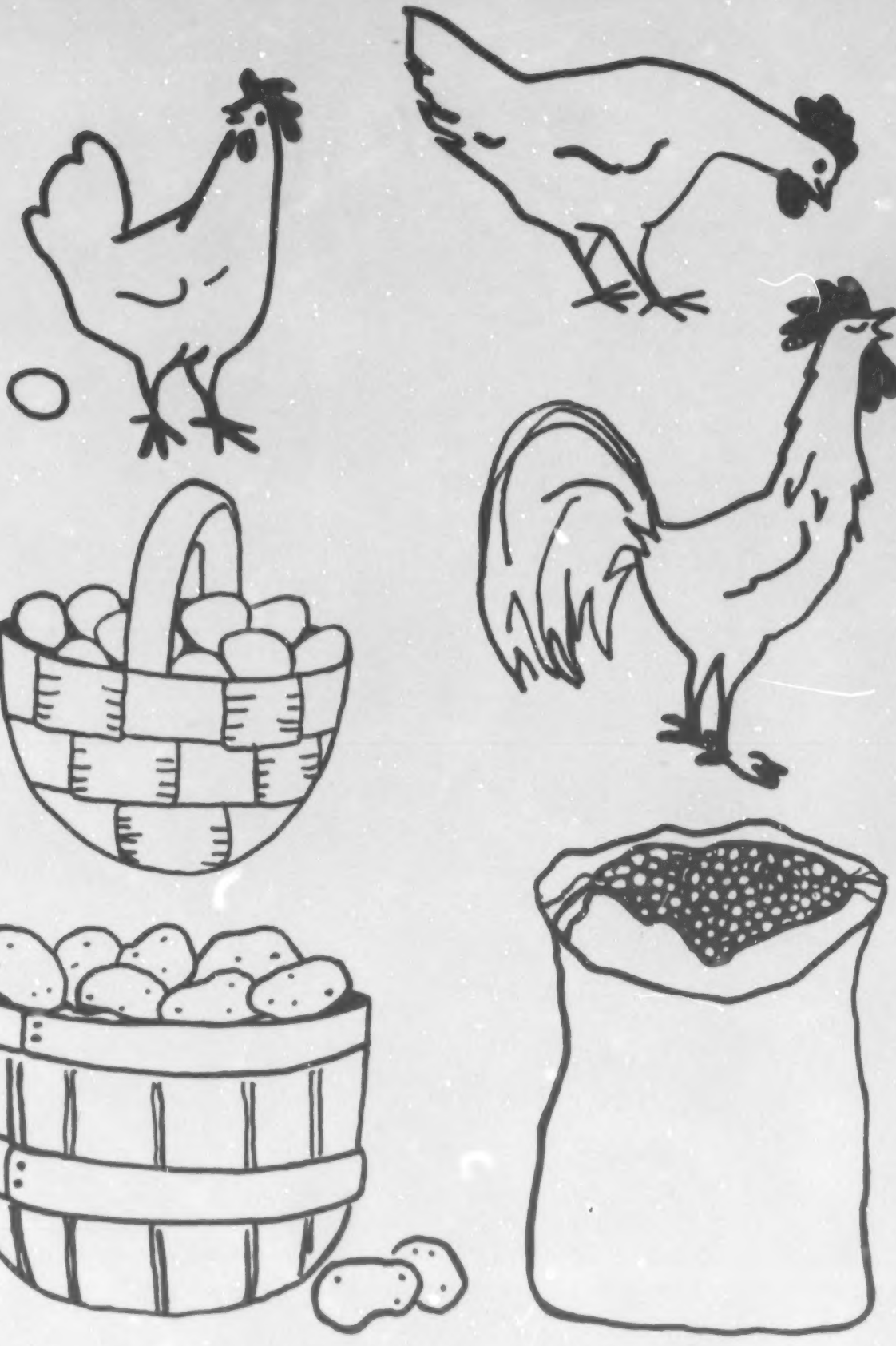

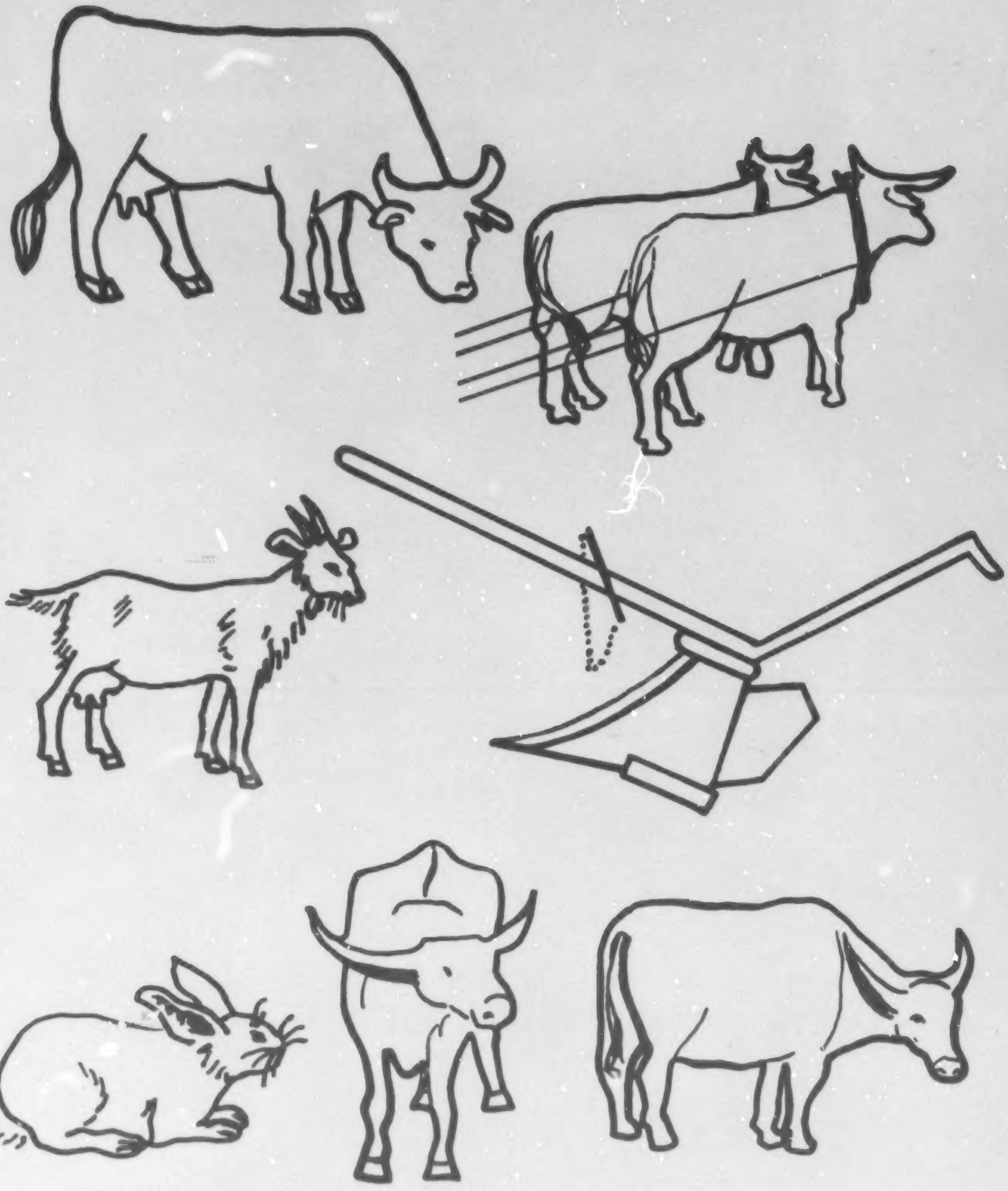

Recipes For Making Low-cost Easy To Make Media Materials

RECIPES SECTION

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How to Make Two Different Flip Charts..... 3.

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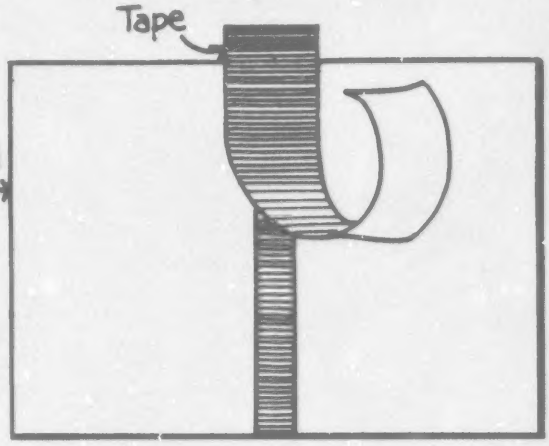
HOW TO MAKE A FLANNELGRAPH

The flannelgraph is essentially a piece of cloth fastened to a stiff backing. The cloth may be felt, flannel, suede or cotton cutting, burlap flour or potato sacks, a rough weave blanket, turkish towel, or any other roughly napped material. The backing may be wallboard, masonite, plywood or heavy cardboard. The following instructions are for making a portable flannelgraph.

Materials:

2 pieces of masonite, plywood or cardboard each 75 x 50 cm
1 piece of flannel 75 x 100 cm
canvas hinges or heavy masking tape

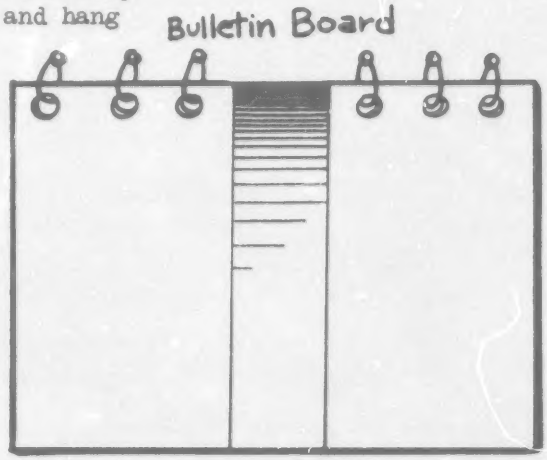
Process:



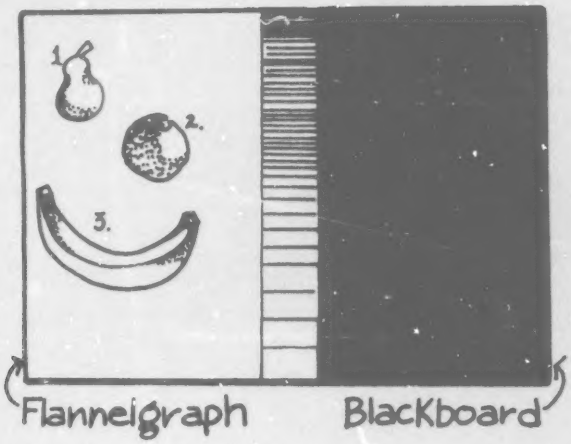
1. Join 2 pieces of board together by using canvas (or metal) hinges or by using heavy masking tape.
2. Flannel (or similar material) may be stretched over boards on one side and glued in place, or it may be tacked to the board only when used and folded under the arm for traveling purposes. Other ideas for mounting flannel are provided in the "Suggestions" section.

Suggestions: The measurements given here are only suggestions. Adapt them as you see fit, keeping in mind the size of the audience and the space needed for your usual visual presentations.

. When not being used as a flannelgraph, the board may also be used as a bulletin board. By drilling or punching several small holes along one side of the 2 boards, you can loop pieces of string through the holes and hang it on a wall.



- If you prefer to combine the flannelgraph with a blackboard, prepare one or both sides for a blackboard, following instructions under "Portable Blackboards." You can then use one side as a flannelgraph and the other side as a blackboard for making notes and illustrations suggested by the group during discussion.



- The important thing to remember in using a flannelgraph is that it works best when placed at a slant (10° to 15° angle). If it is used in an upright position, the pictures will fall off--no matter how firmly secured with backing material. It will therefore be necessary to use some sort of easel (see "Bamboo Tripod Easel") or to prop it against a table, for example, at an angle.

- To insure a tight fit of the flannel over the board, use a slightly larger piece of flannel than the board and hem a length of elastic band along the edges. The flannel backing can then be easily slipped over the board and will have a smooth, flat fit. When not in use, remove the flannel and fold it for storage.

NOTE: Fasten pieces of sandpaper to back of pictures to be used on flannelboard.

HOW TO MAKE TWO DIFFERENT FLIP CHARTS

The following instructions are for making a durable flip chart that can stand without any support (that is, it does not need to be held or does not need any other presentation stand). Included under "suggestions" are ways in which it also can be used as a "mini" chalkboard or flannelboard.

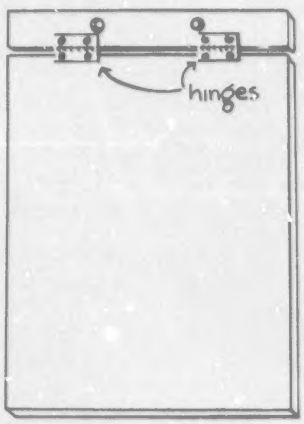
Materials:

2 pieces of plywood or thin (5 mm) hardwood measuring 45 cm x 50 cm
2 strips of wood measuring 38 mm x 40 cm x 8 mm
2 hinge joints
2 bolts and 2 wing nuts
piece of cord 3 mm thick x 28 cm long
ruler, pencil, paper

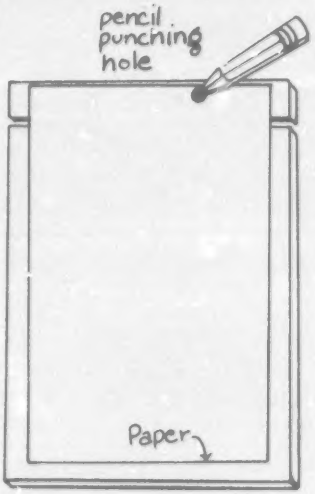
Process:

1. Drill two holes in each long wooden strip at approximately 13 cm from each end.

2. Hinge each strip to a piece of plywood.



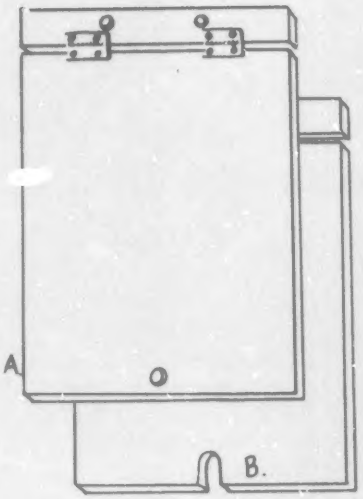
3. Place a sheet of paper, the size that you will be inserting in the flip chart, on one of the joined wooden strips and plywood boards. Position the paper in the middle of the top edge of the wooden strip. With a pencil, gently punch a hole through the paper that corresponds to the holes in the wooden strip.



4. Remove the paper and measure the distance from the side and top of each hole. These are the measurements you will use in punching holes in the papers you will be inserting in your flip chart. Punch holes in all papers you are going to use. Be sure to add some additional clean sheets for further notes or drawings that may come up in the discussion.

5. In the middle of the bottom edge of one plywood board, drill a 3 mm hole. (This now becomes cover A.)

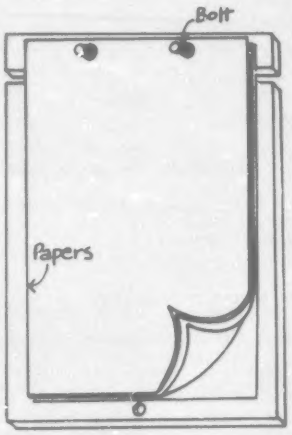
6. In the middle of the bottom edge of the other plywood board, cut a vertical slot 2 mm wide and 1.5 cm long. (This now becomes cover B.)



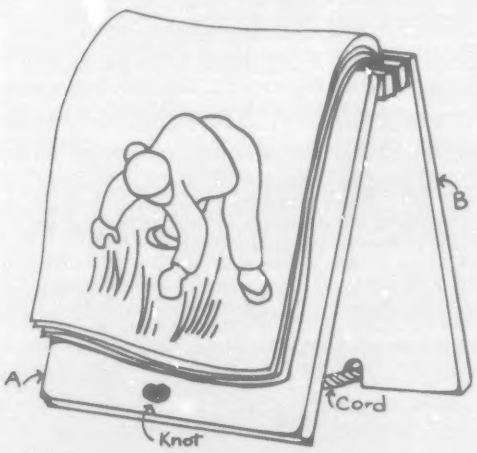
7. Stack your papers together evenly. If the holes have been punched accurately, you should be able to see through the holes.

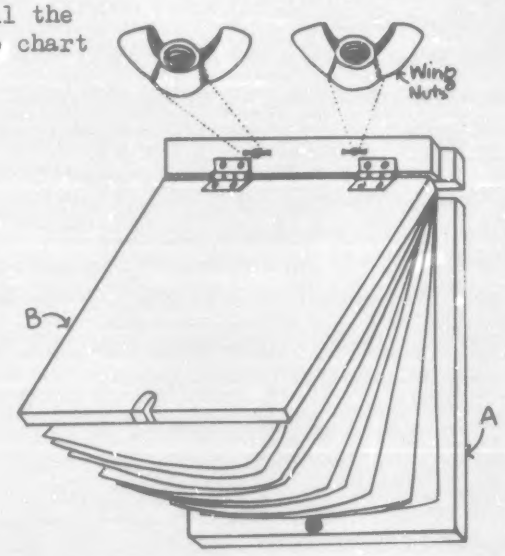
8. Insert a bolt through the back of each hole in the wooden strip of cover A. Place cover A flat with the bolts sticking up (the hinged joints should be flat against the table). Insert punched papers (face up) over bolts.

9. With the hinged surface of cover B facing you, place it over the punched papers, inserting the bolts through the holes in the wooden strip of cover B. Fasten securely with wing nuts.



10. Pass the cord through the hole at the bottom of cover A. Make a knot at both ends of the cord large enough so that it will not slip through the hole. To keep the flip chart open while you use it, pull the cord through the vertical slot, until the second knot catches in it. The flip chart will now stand up (A).





Suggestions: For further adaptability of your flip chart, you may want to consider painting the inside of one cover with a flat black paint which will give you a small chalkboard. (See instructions for preparation in recipe book under "Chalkboards".) The other inside cover can be covered with a piece of flannel to give you a small flannelgraph.

- Use plain, pliable paper in the flip chart (not cardboard!) so that you can easily flip through the pages.

- Newspaper can be cut and used as pages in the flip chart. Remember to select newspaper pages that are free of large print and photographs as these can be very distracting.

- This flip chart can be easily refilled so feel free to tear off any sheets and give to members of the group for their reference.

- The addition of blank sheets placed either at the end or interspersed throughout the presentation will allow you to make notes and respond to the group discussion.

- If more than one subject is included in your presentation, or if the topic you are discussing has several different components, use blank sheets to separate the components.

- Experiment with writing on the paper you use in the flip chart before binding it:

  - make your drawing big and bold, use thick lines. Stand at a distance to check that the drawing or writing can be easily seen.

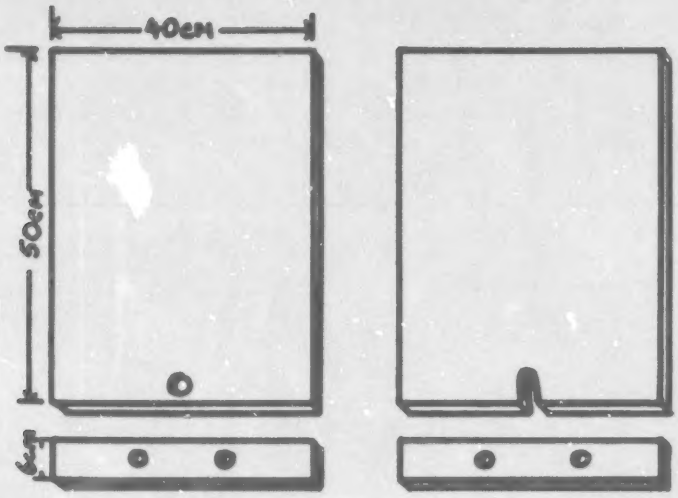
  - you can use crayons, chalk, felt pens or charcoal to write on the paper; chalk and charcoal have a tendency to smear easily and, if used, should be protected by a blank cover sheet.

  - some inks will soak through one sheet of paper and onto the next; you may have to do your ink drawings or writing before placing them in the flip chart.

- The measurements of the boards are only suggestions; use whatever dimensions you desire. The size of the flip chart is determined by the number of people with whom you plan to use it. Keep in mind that the covers of the flip chart should be larger than the pages and that the length of the wooden strips should be the same width as the boards for the cover.

- If you have someone cut the boards and strips, ask that the holes be drilled at the same time. If you use the measurements suggested, you might simply show the diagram to the person cutting the materials with the following instructions.

NOTE: If flip-chart will have heavy use, glue strips of tape or paper where holes will be punched and around edges of paper.



I need:

2 boards cut with these measurements
2 strips of the same material cut
with these measurements.

Please drill two holes in each wooden strip, each 13 cm from an end.

In the middle of the bottom edge of one board, drill a 3 mm hole.

In the middle of the bottom edge of the other board, cut a vertical slot 2 mm wide and 15 mm long.

If this is done before you begin putting your flip chart together, you need only do the following steps in the process: 2, 3, 4, 7 - 11.

. You can use metal, cloth, or canvas hinges. If hinges are not available, drill additional holes at the same point in each wooden strip and board and use a loop of heavy cord for the hinge.

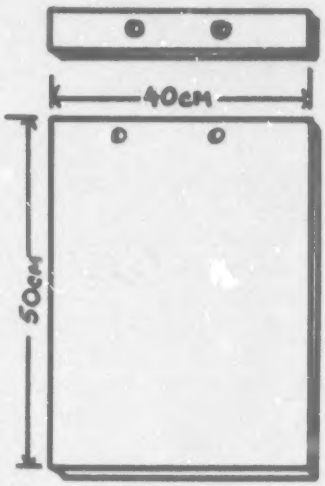
Flip Chart #2: The following instructions are basically the same as those given for the first flip chart. However, this flip chart will not be freestanding and offers less protection for enclosed pages than does the first flip chart. It also involves fewer materials and is cheaper and easier to make.

Materials:

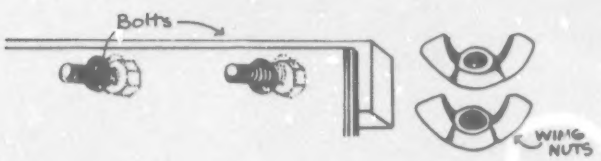
1 piece of plywood (or similar material), 40 cm x 50 cm
1 long strip of plywood, 40 cm x 40 mm
2 bolts and 2 wing nuts

Process:

1. Drill two holes at the top of the plywood board approximately 13 cm from each end. Drill two matching holes (13 cm from each end) in the wooden strip.



2. Position a sheet of paper slightly below the top of the plywood board and center it. Gently punch a hole through the paper that corresponds to the holes in the board. Taking the measurements of these holes, punch holes in all sheets to be used.



3. Place bolts through back of board and slip punched sheets over bolts. Place wooden strip over sheets, inserting bolts through holes in strip. Secure firmly with wing nuts.

Read suggestions and adapt ideas given for Flip Chart #1.

CHALKBOARDS

MAKING A CLOTH CHALKBOARD: This small portable chalkboard which is both light and easy to carry can be used with groups of up to 15 people.

Materials:

55 x 75 cm piece of oilcloth
round wooden pole or stick
can of opaque black paint
sandpaper

Process:

1. Roughen the shiny side of the oilcloth with sandpaper. Apply two coats of black paint, allowing the first coat to dry thoroughly before applying second coat.

2. When paint is dry, fix a round, smooth wooden rod or pole to the long end of the painted cloth.

3. Connect both ends of the rod with a piece of cord so that you can hang it on a nail.

4. In rolling up the chalkboard, roll the painted side in so that the unfinished surface is on the outside.

Suggestions: If oilcloth is not available, use a smooth, thick piece of cotton cloth. Give the cloth a very thin coat of (carpenter's) glue on one side. When glue is dry, apply two coats of paint as above, remembering to let each coat dry completely.

. Before using chalkboard, go over it with eraser containing chalk powder to make it easier to erase what you write.

PORTABLE CHALKBOARDS

Materials:

55 x 75 cm piece of linoleum, plywood, masonite or similar material
If you are planning to carry this chalkboard, remember the material you select should be lightweight.
Sandpaper
Black paint or chalkboard paint

Process:

1. Whatever material you select, whether it is smooth as linoleum or rough as plywood might be, it should be sanded carefully to an even roughness.

2. Apply two separate coats of black paint to the roughened surface. Be sure the first coat of paint is dry before applying second coat.

3. A good wooden frame is suggested to help prevent warping and give the chalkboard more permanency.

Suggestions: Before using the chalkboard, rub a chalk-dusty eraser or cloth over it--it will be easier to write on!

CHALKBOARD PAINT

1 part lamp black
1 part varnish
1 1/2 parts of kerosene

Mix varnish and kerosene thoroughly before blending thoroughly with lamp black.

MAKING CHALK

INGREDIENTS:

1 part soil to 4 parts water

Process:

1. Shovel up some chalky looking soil. Put in bucket, leaving room for about 4 times as much water as soil.

2. Add water and stir vigorously. Crumble large pieces and dissolve soil as much as possible. Ignore hard rocks or pebbles.

3. Allow soil to settle overnight.

4. Pour water off the top and skim off top layer of silt. (This is usually several inches thick.) The top layer you have just skimmed off is "chalk" in a liquid state.

5. Put "chalk" in bag made of muslin or similar coarse, porous cloth and let drip overnight. To speed process, water may be squeezed out.

6. Roll chalk, which now looks like clay or bread dough, into long, snake-like pieces, cut to desired lengths, and let dry. Or, split bamboo stalk and use for chalk mold. Thicker chalk will not break as easily.

7. Now test it. If your soil is the right kind, you have chalk.

Suggestions: You may be puzzled about how to find "likely-looking soil." One way is to observe what people in the village use for marking. For example, in Nepal, red clay is frequently used by villagers for marking.

•If you want colored chalk, add any dye available in the village.

Other Recipes

My Own Formula:

- Inks,
- Dyes, &
- Paints

FORMULAS AND SUBSTITUTES

INK FORMULA

22 cc alcohol
14 cc water
2 grams dry or powdered blue dye

Other dyes which may be used instead of indigo blue are:

orange
green

Add ingredients and stir well. Experiment with using dyes common to your area.

Another Dye:)

DYES AND PAINTS

A wide variety of roots, barks, seeds, and leaves can be used. Check with local dyer for ideas or buy commercial dye. Mix with a thin glue solution until desired consistency is achieved (same consistency as paints commercially prepared). This glue can be made/ obtained from the residue of boiled bones.

How To Make Paste

Another recipe:

FLOUR PASTE

Commercial wheat or cassava flour
Water (as needed)

Remove all lumps from the flour by sifting it through wire screening. Add water as needed to the flour to form a smooth paste. Insecticide may be added in areas where insects are a problem. WARNING: If insecticide is used, store out of reach of children who sometimes eat paste!

Suggestion: In Nepal, field workers have found that cooking flour and water, stirring it constantly until all flour is dissolved, is a good means of preparing paste. Allow to cool before using.

and another recipe:

RICE PASTE

Handful of rice
Water

Cook rice in water as usual until rice is moist and sticky. Do not allow rice to become dry. Allow to cool, drain off any excess water. Dat a small amount of cooled, sticky rice on area of paper on which picture is to be mounted. With finger, smooth rice onto paper pressing out any lumps. Picture can then be mounted.

RUBBER CEMENT

INGREDIENTS:

5 grams of raw rubber (translucent, light brown sheet kind--crepe soles from shoes, or some baby bottle nipples may be used)
250 cc of uncolored gasoline (If not available, see below.)

Process:

1. Put rubber and gasoline in a jar with a screw top.

2. Let stand about 3 days until rubber is dissolved in gasoline.

3. If any globs of rubber remain, stir until dissolved. Rubber cement should be smooth and milky-colored in appearance.

4. Store in airtight brown bottle in ventilated cupboard. One idea you may want to try is to insert a one-inch paint brush through the metal cover of the jar. This will then give you a brush with which you can apply the rubber cement.

Suggestions: If uncolored gasoline is not available, use the following process to filter colored gasoline:

1. Take a clean tin can and puncture a hole in the bottom. Place a small piece of cloth in bottom to keep particles of charcoal out of filtered gasoline.

2. Fill the rest of the can with small particles of charcoal.

3. By holding can over a bowl, pail or other container, pour the gasoline over the charcoal.

4. This process may have to be repeated several times to remove all color from the gasoline. Charcoal also may have to be changed after 3 to 4 pourings.

CAUTION: Gasoline is flammable. Use care when mixing and applying the rubber cement. Work with gasoline outdoors only. Do not use near fire. KEEP OUT OF THE REACH OF CHILDREN.

Modeling Clay

1. 1 part flour to 1 part salt. Add enough water so that when flour and salt are mixed, balls of dough are formed.

2. Shred newspapers or paper towels. Mix with any starch paste and knead thoroughly.

Another Recipe:

3. Dissolve 250 ml of starch paste in water to thin slightly. Add 375 ml of plaster; 500 ml of sawdust; knead to consistency of tough dough.

Another Recipe:

4. Soak small pieces of newspaper in bucket of water overnight. Remove from water and rub wet paper between palms of hands until it is ground to a pulp. Mix 1 ml of glue in 250 ml of water; add 500 ml of plaster; 1 liter of wet paper pulp. Knead to a doughy consistency.

and another:

5. Mix 250 ml of dry clay powdered and sifted through a screen with 5 ml of glue in 250 ml of water; add wet paper pulp and knead to doughy consistency, adding more water as necessary.

6. Powder mud from an ant hill and mix with water.

7. Check to see if clay is available in your locality--you may only need to dig a bit.

MAKING A BAMBOO TRIPOD EASEL

A bamboo tripod easel can be easily constructed to hold a flannelboard or flip chart or other large, stiff-backed visual materials. It is sturdy, made of low-cost materials, and convenient to carry and to use.

Materials:

Three 1.5 m poles
Two 8 cm wooden pegs or sticks
4 m of heavy cord

Process:

1. Drill a hole through the bamboo near one end of each pole. With 20 cm of heavy cord, tie the three ends together securely, but not so tightly that tripod legs cannot be opened.

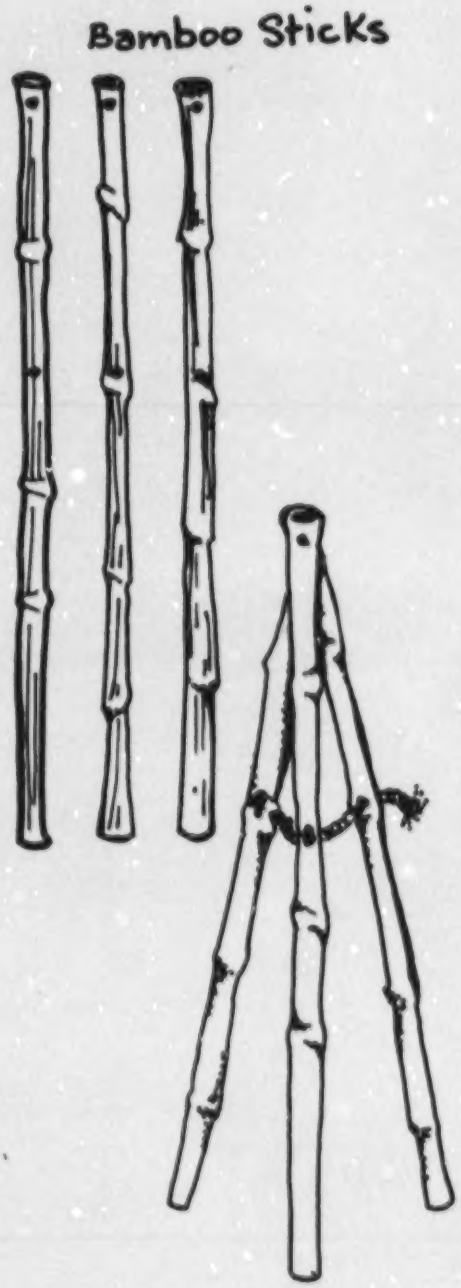
2. Drill another hole near the center of each pole. Beginning with the first pole, slip the heavy cord through the hole and tie a knot at one end of the cord leaving at least 8 cm hanging free.

3. Pull the rest of the rope through the hole until the knot you have made rests firmly against the pole.

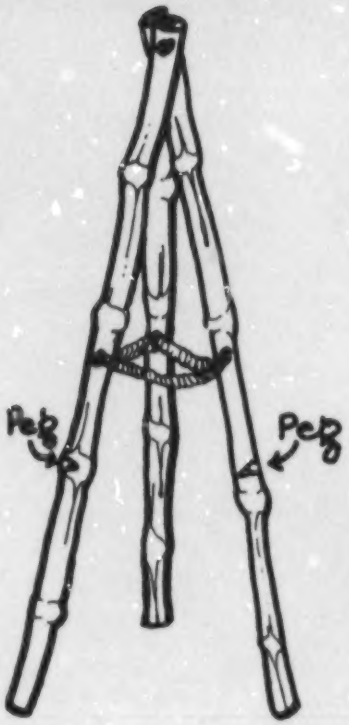
4. Measure off a distance of 60 cm and insert the rope through the hole in the next bamboo pole and make another knot.

5. Follow this same process with the third pole, always allowing a 60 cm length of rope for the distance between poles. For the last length of rope, tie the two ends together (remember you have 8 cm hanging free), measuring first to be sure the length of cord between the two poles will be approximately 60 cm in length when the knot is completed.

6. Set your tripod up now as it will be when you use it. Decide at what height you want to place the bottom edge of your visual materials and mark this spot on the front two poles. (It would be a good idea to measure this distance to make sure both marks are the same length from the bottom.)



7. If your rope holes are big enough, you may be able to slip the wooden pegs through these. If not, drill two holes and insert wooden pegs or sticks to support flannelboard or other display.



Suggestion: The length given for the wooden pegs will vary according to the size of the bamboo. You will want at least 7 cm of the peg sticking out in the front, so cut your pegs with this in mind.

HOW TO MAKE A BAMBOO COMPASS

Materials:

2 bamboo rods about 1.5 cm in diameter and 40 cm long
knife
wooden peg 2 cm in length and a diameter that fits into hole in bamboo (piece of pencil may be used) with one end sharpened
1 piece of chalk
2 strong elastic bands
a bolt and a wing nut

Directions:

1. Make a slit 1/2 cm wide and 3 cm deep in one end of both rods. (Note: If chalk and/or wooden peg fit securely into bamboo holes, this step is not necessary.)

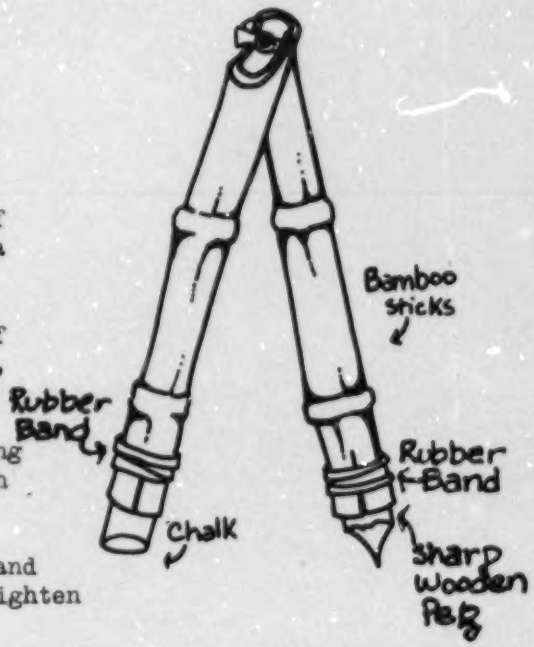
2. Fit a piece of chalk in the end of one of the rods and clamp it firmly with an elastic band. (A)

3. Fit a sharpened wooden peg in the end of the other rod and clamp it firmly with a rubber band. (B)

4. At the other ends of both rods slice off 3/4 of circumference to a depth of 3 cm, leaving thin end pieces.

5. Puncture or drill holes in the protruding end pieces and fasten them together with the bolt and wing nut. (C)

6. In using this compass, loosen wing nut and set compass at desired distance; then tighten wing nut.

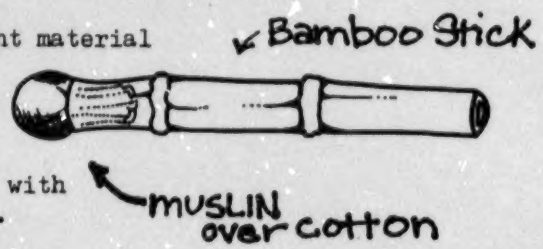


HOW TO MAKE THREE LETTERING MARKERS

BAMBOO MARKER (To be used instead of felt-nib pens)

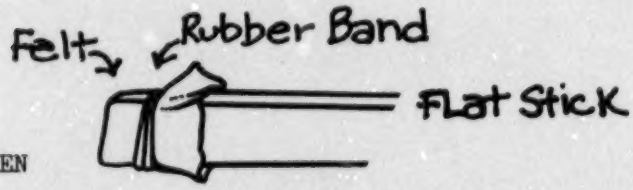
Materials:

10 cm stick of bamboo (the inside diameter should be the same size as the line you want to draw)
wad of cotton or any very absorbent material
small piece of loose-weave muslin



Procedure:

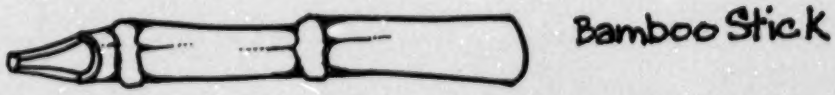
1. Compress cotton tightly and cover with muslin. Stuff into end of bamboo.
2. Using ink or dye (see Recipe Section under Inks & Dyes), dip cotton into dye and allow a reasonable amount to be absorbed. Wipe off excess.
3. Begin lettering.



FLAT STICK PEN

For making large letters you can wrap a small piece of felt over the end of a flat stick such as a tongue depressor and secure tightly with an elastic band. Dip into ink and begin lettering!

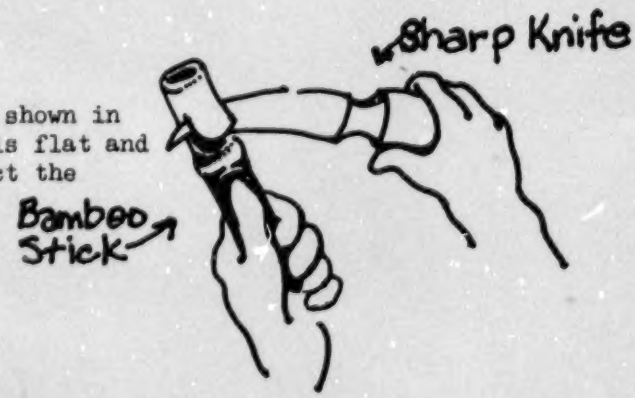
BAMBOO LETTERING PEN



Materials:

12 cm stick of bamboo cane
knife or razor blade

Carve an excellent lettering pen as shown in the drawing. Be sure that the end is flat and even in thickness as this will affect the lettering you produce!



PROTECTIVE COATINGS

Apply a preservative or protective finish to the surface of your visual materials to protect them from the wear and tear of frequent handling and the possible damage from the weather. What you are looking for is a substance which when dry is transparent and yet gives a hard finish. Here are two suggestions:

. By combining 2 parts white glue with 1 part water, you will have a mixture which, when applied to the surface of your visual, will give a glossy, pearl-like protective coating against scratches. It will not protect your visuals from damage due to wet weather.

. A thin coating of shellac or lacquer will also give a protective finish to your visual materials and it will resist water.

These are just two ideas. In some places, you may find a clear floor wax will serve equally well and may be cheaper to buy. Experiment with different products on the market, keeping in mind the characteristics of the finish you want.

CAUTION: In applying these coatings, make certain the colors of the picture are waterproof (permanent ink). Otherwise colors will run. If you are not sure about the materials you are using, experiment on scrap paper.

Other Coatings:

SUGGESTION: A clear plastic sheet also may be used to protect your visual materials.

ADHESIVE PAPERS

Dry mounting tissue and other adhesive materials are simply thin sheets of tissue paper coated on both sides with a finish of some sort. Dry mount tissue is coated with shellac or lacquer; other tissues are coated with a thin coat of wax.

If you are unable to purchase this material, you may want to try making it by dipping a thin sheet of paper or cloth into shellac or melted wax. If you use wax as a protective coating, you may not need to apply any heat; pressure with your thumb or with a stack of books will make the adhesive material stick. Wax coated materials will not give you a permanent mount but can nevertheless be most useful. If you want to temporarily tack a picture to cardboard or some other backing material, use only small squares or strips of the adhesive paper to stick on the corners and edges.

Do not be afraid to experiment--you may come up with something better!

Other Ideas: